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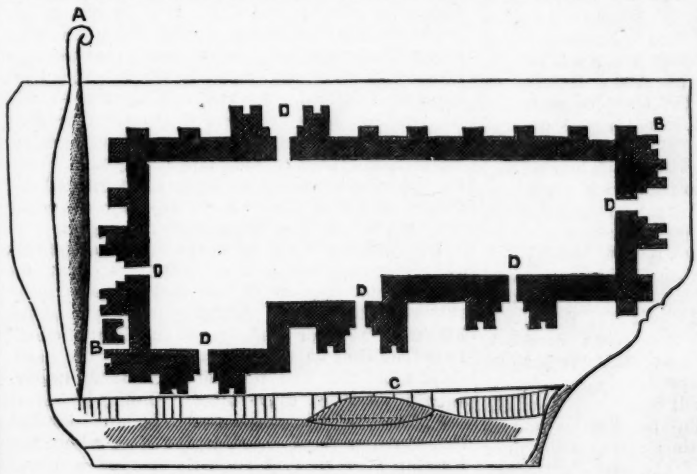
Babylonian Architecture.

THAT the people of Babylonia were a building race at a very early period in their national life is indicated by the fact that the third month in the calendar corresponding to our May and June bears the name of the month of the "Making of Bricks." This month Murga was called by the Semitic Babylonians and Arameans, who borrowed the calendar from their Turanian predecessors, the month Sivan, or the "Month of Clay," because at that time the spring rains had ceased, and the clay, so important a material to the Babylonians, was obtainable in large quantities: This tradition preserved in the national calendar carries us back to a very remote period in Babylonian civilisation, yet on the very threshold of the monumental age we find each king claiming for himself the title of "the Builder King." In the ancient lists of Babylonian officials which are preserved to us in the libraries we find that the "inspector of the bricks" was an important person, ranking next to the "tax-gatherer" and along with the "chief builder" and "the surveyor." Just as it was the duty of each Pharaoh on his accession to lay the foundation of his pyramid or tomb, so it was incumbent upon each of the kings of Chaldea to repair the temples of his capital, and to build a shrine or house for his proctor god. The inscriptions recently discovered by Mr. Rassam at Aboo Hubba show that as early as thirty-eight centuries before the Christian era, Sargon of *Akate* or Akkad fulfilled his royal duties by laying the foundation-stones of the temple of Anat, the great mother, his protectress. The profession of architect in the land of primitive builders was a high one, and, as the statues and inscriptions discovered by M. de Sarzec at Tel Lo show, was adopted, or at least assumed, by the kings. Among the statues now in the Louvre, which were discovered by M. de Sarzec, of which we have already given an account in a former article on "Chaldean Art," is one of King Gudea in his office of chief architect. This remarkable figure, cut out of hard diorite, with all the ornaments of the richly-embroidered robe and the fringes cut with the greatest care and attention to detail, with inscriptions as clear and sharp as the day they were graven, may be regarded as the earliest statue of an architect. Before the time when semi-mythical Menes (B.C. 3892) had laid the foundation-stones of the temple of Phtah, and more than twenty centuries before Setna, the chief architect of the "man queen" and lavish patron of the architect and builder Queen Hatsu, had been rewarded by his royal mistress with a statue, there had been placed in the temple of the Thunder God a votive figure of the royal architect, who holds on his knee the tablet on which he has drawn the plan of the sacred edifice, which now yields up its buried treasures to the explorer.

The small sketch which accompanies this article is an exact reproduction of what we may now certainly regard as the most ancient plan of an edifice which is preserved in the annals of architecture. The King-architect Gudea ("the Prophet") is represented as seated on his throne, clad in a long striped robe, and holding on his knees the tablet on which he has drawn



the plan of the temple. He was supposed to have only just completed his design, as the stylus or graver (A) is resting on the tablet by the side of the design. This remarkable drawing, which cannot be placed later than thirty-seven centuries before the Christian era, shows the very conservative nature of the architectural profession in Babylonia, for the plan is exactly similar to that of the buildings at Aboo Hubba, or Sippara, or at Babylon, erected by Nebuchadnezzar or Nabonidus.

The most remarkable feature in the architecture is the buttressing of the outer walls. At regular intervals (at Abbo Hubba every 10 ft.) the walls are broken by buttresses, while the doorways (D) are flanked by massive double buttresses or pilasters. The regular arrangement is broken in two places by constructions introduced (B) into the spaces between the buttresses. These are probably altars, or brick platforms for altars, as in excavating at Abbo Hubba and Tel Lo the explorers have found traces of such constructions placed near the doorways. The line of wall is broken by six doorways, three of which are placed on what we may provisionally call the south side, which, from the ornate character of the work, is evidently the chief front of the building. It is hardly possible that these six doorways gave entrance into one room: we must, therefore, conclude that the architect has not drawn the interior plan of the various chambers.

The explorations of M. de Sarzec brought to light the remains of a large edifice, exhibiting the style of architecture shown on this plan. The walls were of great thickness, 10 ft. and 12 ft., with heavy projecting buttresses, decorated as at Warka and Mughier, with cones and coloured plaster. During a short visit of exploration to this site in 1878, Mr. Hormuzd Rassam recovered for the British Museum some interesting inscribed records, which preserve to us the name and titles of the early builder kings, and the descriptions of the edifices they constructed. Upon a small tablet of white calcareous stone we have the inscription:—"To Nin-girzu, the great chief, his lord Gudea, Viceroy of Sergulla, his offering has brought forth, and the temple of Mir-mir, his high-place he has made, and the site he has established." This inscription is repeated some hundreds of times on brick, cones, and small stone tablets. Some of these records have survived in remarkable preservation, and are as clear and sharp as on the day they were cut or impressed on the surface of the stone or clay. This survival of ancient inscriptions is no doubt due to the great care which was taken by the ancient Babylonians of all ancestral records. It was the duty of the kings to read the records of their ancient ancestors, to clean them, and to pour out a libation and offer sacrifices to them. We have a remarkable example of this conservation of records in the case of an inscription of Dungi, a very ancient king, the contemporary of Gudea, of Sergul. This king had written or engraved an inscription on a plate of silver and placed it in the temple of Nergal at Cutha, the site of which is now marked by the mounds of Tel Ibrahim. In course of time the inscription had grown old and tarnished, and so an official copy of it was made by order apparently of Nabonidus (B.C. 555) some 3,500 years after it was first made. In copying the text the scribe has endeavoured on the small clay tablet (3 in. by 2 in.) to reproduce the archaic characters of the legend on the original ingot. The legend reads, "Dungi the strong man, king of Ur, king of (the lands of) Sumir and

Akkad,—the temple of Sitlam, the temple of the god Sitlam-ta-uddu in the city of Gudu (Kutha) be made." This legend is written in very archaic characters in the old Akkadian language of Babylonia, but the scribe adds in cursive handwriting the docket "Which is like the silver ancient tablet of the temple of Sitlam-ta-udda in the city of Cutha." This temple of Sitlam-ta-udda was the great temple of Nergal, the lion-headed god of death, "the devourer," the midnight sun of the under world, who went down into tomb-land. The city of Cutha was the great Necropolis of Chaldea, and this temple of Sitlam, or "the dark world," was dedicated to the "death god." The careful preservation of these records and the copy of an inscription which had decayed away accounts for the rich store of most ancient inscriptions and monuments which are now being recovered from the cities of Southern Babylonia. It would appear, when we examine the elaborate mathematical calculations of the Babylonians, that the plan here given was drawn to scale, and that such scale was preserved in the divided rule (C), which lies on the edge of the tablet. The tablet of an ancient Babylonian land survey which we published some years ago showed that the science of land surveying and the calculation of areas had made some considerable progress in the land of Babylonia; and we may, therefore, suppose that the architect drew his buildings to scale. The specification of the temple of Belus, we know, furnishes the dimensions of each shrine and temple with the greatest care and accuracy; and in the sales of houses the size is always accurately given. An example of this is seen in a tablet forming part of the evidence in a law case dated in the second year of Nabonidus (B.C. 553), where we read, "Seven canes, five cubits, eight digits (frontage) of a house territory and plantation of palm trees which is within Borsippa"; and in every contract the dimensions of property are specified with the greatest care. Some Assyrian copies of ancient Babylonian tablets recently discovered have thrown light upon a subject always of interest to students of ancient architecture, namely, the Orientation of the buildings which these ancient builders constructed. It will be remembered that all the ancient edifices and mounds in Babylonia and Assyria, with one exception,* are found to be constructed with the angles towards the cardinal points. The great quadrangles at Aboo Hubba, at Koyunjik, at Khorsabad, the temples at Ballawat and Nimroud, are all constructed on this system. A small fragment of a tablet recently discovered shows that the Akkadians had shifted the cardinal points 45°, so that their north was our north-west; and their south our south-east, so that the corresponding points were :—

N = NW, S = SE, E = NE, W = SW.

This explains the Orientation of the ancient temples, and we now find that according to this system every temple in Assyria and Babylonia was duly Orientated with the *cella* (*parakku*), or holy of holies at the east end. It is to be hoped that the French expedition now *en route* to the plains of Chaldea will uncover the whole of the temple at Sergulla, and thus supply us with the means of comparing the existing plan with the original design of the architect king, which has been so wonderfully preserved to us.

* The Babel mound at Babylon, the probable site of the hanging gardens, and, if so, a late construction.

PREMONITORY WARNINGS OF A WATER FAMINE, AND HOW TO AVERT IT.

FOR the first time for some ten years we have enjoyed, not an arid, but a moderately dry summer. It has been far from a rainless season. Violent downpours of rain have occurred in it; and we should anticipate that when the rain-gauge returns for June, July, and August are completed and tabulated they will by no means show an inappreciable depth of rainfall. And yet in two places,—of sufficient magnitude and importance to allow their complaints to be heard in the daily papers,—there are apprehensions of a water famine! What would be the case were all the actual deficiences shown,—still more, what would be the case if we had a really dry summer,—it is somewhat alarming to contemplate.

In Richmond the scarcity of water is causing very great inconvenience. The roads are watered by supplies taken from the Thames. We may point out, in the interest of the public health, that few surer means can be adopted of spreading certain diseases than by sprinkling the roads with water which is avowedly unfit (without purification) for human consumption. A large wet area is thus exposed to the burning rays of the sun; and miasmata of all kinds are drawn up into the air, and exhibited, as the doctors term it, to the lungs of the inhabitants. The public baths at Richmond are also supplied with Thames water,—thus combining the disadvantages of a dip in the river itself with an absence of that counter excitement which the stimulus of the open air supplies to the river bathers; and people are seen crowding round the pumps with cans and pails, waiting their turn to get to the spout. How far these wells and pumps are free from pestiferous percolations through the soil is just one of those things which, when water runs short, people rarely take time to consider. What inconvenience, and worse than inconvenience, is felt in the homes of the poor, in the laundries, in the hotels, or in any other large establishments, it is difficult to estimate.

It is not our present object either to inquire how it comes to pass that Richmond is thus suffering, or what may be the best method for removing the affliction. We wish to call attention to a fact, of a very grave and serious nature, of which the personal experience is not likely ever to be forgotten. And we do this simply as an example of a large group of similar facts which year by year are more and more likely to occur, and which, in the event of a really dry season, are pretty sure to be as numerous as they are menacing. Nor is Richmond even now alone. Northampton is in a similar plight. The Northampton waterworks are now inadequate to meet the demand upon them, and the owners are seeking for the problematical supply to be obtained from artesian borings. The Company, we are told, are now boring at Gayton, where some water has been obtained, but where the supply cannot be depended upon. The Company are also said to be in negotiation for obtaining water from another source. We hope that this does not mean that they are in treaty with the proprietors of the Grand Union Canal for their reserve water. That small canal, although the unfortunate restriction in the length of its works is such as to put a great bar in the way of canal navigation between the Trent and the Thames, is a necessary link in the inland waterways of England. As such, it has but to bide its time in order to revive from its present depression; and its proprietors will have cause for serious regret if they kill the golden goose for the sake of one or two eggs, and imperil the future value of their waterway by not only tapping, but selling the sources of supply.

In London we are so accustomed to the tale of under-supplies and over-charges, that we fancy many readers of the daily papers must skip with disgust all paragraphs that bear the heading, "Water Supply of the Metropolis." It is true that at the present moment the hardships most felt are not so much from under-supply as from over-charge. Both, however, are phases of the same evil. In an island at the south part of the Caspian Sea, where the Russian Government recently erected a naval establishment, water is so scarce that a recent writer says that it costs 3s. 6d. a barrel. This is a good instance of the relation between quantity and price. The Northampton Water Company attributes the under-supply to the immense quantity of water consumed by the householders for flushing purposes. It may often be the case that water is wasted, or improvidently used. But it is one thing to deal with water when it costs a halfpenny a ton, and quite another when the indispensable fluid costs 3s. 6d. per barrel. It is well for those who think that it is always easy to obtain an adequate water supply to reflect on such a fact as we have just cited.

As to London, we are now told that the monopoly of the water companies depends, not on the original Acts of Parliament, but on a clause carelessly allowed to pass in an Act of 1875, forbidding the local authorities to supply water to the ratepayers so long as the companies should afford an adequate supply. We have too much respect for the letter of an Act of Parliament to take any second-hand comment, from whatever authority, as to the effect of its expressions. But if that statement be correct, and if "adequate" be the proper word, it seems to us that the only question is one of interpretation; and that if it be doubtful whether the condition of reasonable charge be involved in the "adequacy" of the supply, a short declaratory Act of Parliament would be a very simple mode of doing justice in the case. If, for instance, a company should plead that they could supply an unlimited quantity of water, but that they must receive a fabulous price for so doing (which is only putting the construction in the strongest light), it is only probable that a tribunal would take a common-sense view of the matter; and if a judge found that he was prevented from doing so, it would afford ample justification for the appeal to Parliament to make good its own work.

If a further hint as to the necessity of looking ahead as to the physical sources of our water-supply were needed, it would be found in the journals of the same day that tell of the water famine at Richmond and at Northampton, and that raise the question as to the adequacy of the London supply. A disastrous subsidence of land has occurred at Boosbeck, where 150 houses present the appearance of having been subjected to a heavy artillery fire, or to the effects of an earthquake, or of subterranean explosion. The source of disturbance, however, arises in the workings of a mine, 300 ft. in depth underground. A large quantity of ironstone has been excavated, and the land is "creeping," to use the miners' term for slow displacement, towards the spot, to fill up the "goaf" or cavity left. The subsidence has been accelerated by the presence of a bed of quicksand, 78 ft. thick, which contains a large quantity of water. Here, again, we see a case in which the source of a permanent water-supply may very possibly be seriously affected. We have had ample personal experience of cases of the kind,—cases, that is to say, in which, for the sake of ensuring the solidity of foundations, it was found necessary to "bleed" a quicksand. The effect has been what was anticipated, as to safety; but, on the other hand, large urban districts had the level of their water-supply by means of wells and pumps materially lowered by the operation.

The point, however, that we have now chiefly in view is one to which we are anxious to direct the attention of scientific and practical men, before we find ourselves, some fine summer's day, in the presence of actual water famine. As to that, it is only a question of time when it will occur in certain districts, unless timely means be taken for anticipating the gain of consumption over collection. While we talk of the hardness of this spring, and the "previous pollution" of that,—of the inefficiency of this company, and the greediness of the other,—we are shutting our eyes to the fact that we may soon have but little opportunity for selection; and that the time is at hand when, not only must we combine all our existing resources, but we must do something as yet unattempted, if we wish to maintain an ample urban supply of water at all.

It is not that our climate is deficient in the gracious draught. Five per cent.,—we think it has been proved,—of the water that descends on our island in rain is enough for the supply of the wants of man and beast, with something to spare, in the way of the water which has been once used for animal solace, for vegetation. But year by year it is more apparent that we are not taking the steps necessary to collect and protect that five per cent. We trust as yet, in every case, to the storage of nature. Whether we catch the surface water from brooks or rivers, or seek beneath the soil for percolated water, or even tap and carry off the stores of mountain lakes, we only wait idly upon nature. When rain comes down bountifully, we let the bulk of the supply run off to the sea. Now the question that it will by and by become needful to solve is this, "How long will the natural cisterns, formed by the pervious strata, lying on impervious beds, from which we draw our entire water supply, except such as we take from rivers or lakes, be adequate to supply the thirst of our population?" The time is,—as an arithmetical fact,—limited. And there are signs that we may be approaching the limits.

It is now more than thirty years since attention was called by the Rev. J. C. Clutterbuck to the progressive permanent depression of the chalk water-level under London. In all the fierce debate that has risen from time to time on the subject of metropolitan water supply during the last few years, we do not find that any one has thought it worth while to recall the warnings of Mr. Clutterbuck, or to see how far the depression has gone on increasing since

he called attention to its progress. Many wells in and about London, it was stated before the Institution of Civil Engineers on the 22nd of January, 1850, "have ceased to overflow; others, in localities above the natural water-level, have only risen to within a certain distance of the surface. . . . . The natural vent, or outfall, of the chalk water under London, is the mean tide-level in the River Thames below London Bridge. The normal, or natural, condition of the water-level has been entirely altered; there being a permanent depression, varying from 50 ft. to 60 ft. at the lowest point." From 50 ft. to 60 ft. less depth of water in our natural subterranean cistern! What does that bode as to the water supply of the future London?

On every square mile of London descends, in the course of a year, 1,644,000 metric tons of rain water, an amount which is equal to an allowance of 50 metric tons per annum, or rather over thirty gallons per day each, for 33,280 inhabitants. If we take the driest year during which rainfall has been measured in the Thames Valley, we find an estimated downpour of 7,545 milliards, or thousands of millions, of metric tons. To supply 50 metric tons per head to six millions of inhabitants requires 300 millions of metric tons, or only about one twenty-fifth part of this rainfall. But on the other hand, if we attempt to check the calculation by gauging the outflow of the Thames below London, we are struck by the reflection, how little of this ample store is utilised, or, under present circumstances, is utilisable, by man. Measuring the outflow to the sea we cannot account for more than 14 or 15 per cent. of the rainfall. How much escapes by evaporation, how much by subterranean flow, or other means, we cannot tell; at all events, the proportions of need and of evident accessible supply are too close to enable us to dismiss the consideration that we may hereafter have to revert to the plan, universal some half-century ago, of collecting rain as it falls for human use. That cheap and efficient source of water economy has been destroyed by the pollution of rain-water as it falls or as it is collected, by the exhalations of a dense urban population. But the lesson which that fact should teach is that public health and national economy may hereafter make an imperative demand on the chemist for a cheap, certain, and available means of making rain-water not only palatable, but at once sweet, clear, and sparkling. That such a transformation is beyond the power of man we will not believe; nor do we think that a greater boon could be conferred on a densely populated country than the discovery of such a magical charm for sweetening rain-water.

PROGRESS AT BOURNEMOUTH AND SOUTHBOURNE.

To many of our readers the latter of the two places mentioned above is still an unknown name. Southbourne is the name recently given to the district between the Stour and the sea, opposite Christ Church, and about four miles east of Bournemouth: the first point in developing a new locality being to give it a distinguishing name. Till within a recent period this was a strip of sea-coast land of the usual barren description: a stretch of common terminating towards the sea in sandhills, with cliffs overhanging the beach, as at Bournemouth. A good many years ago the first, and for a long time the only, house on the site was built, as an autumn retreat, for a gentleman well known in the literary and social world of London; the architect was the late F. P. Cockerell, and the house was one of the first experiments made in the use of concrete for a dwelling-house; it was intended to be decorated in *sgraffito*, and we remember a drawing of it in the Academy representing those decorative features, which, in fact, the aspiring architect (as often happens) had not actually the opportunity of carrying out. The solitude of Southbourne has now departed, and the seaside common has become a tract laid out into eligible building sites. The first operator was a leading physician in the neighbourhood, but the ownership or management of the estate has now passed, in the natural course of events in such cases, into the hands of a company.

The state of Southbourne at present is that the principal portion of the roads which will eventually be required are laid out and "metalled"; a considerable number of houses are dotted about, at present at some distance from each other, and the nave of a church is built in rather good Gothic style, in which service is now held, the completion of the building by chancel and tower being deferred until matters are more advanced. The most important step which has been recently taken is the erection of a bridge over the river, giving more direct communication from Christ Church Railway Station. The circuitous route by which alone it could be reached was one of the recommendations of the site when it was the abode of only one or two residents desiring quiet and seclusion; with the idea of making it a residential neighbourhood arose the necessity for a straight route. More attention ought to be paid to the state of the roads. They are "metalled" with chalk and pebble stuff brought from some little distance, and apparently laid on in the rough with no regard to gauging; consequently they are cruelly heavy for horses, and uncomfortable and shaky for the vehicles and their occupants. This might easily have been better done, and it is a point that should be looked to in the future. As to the style of the houses much cannot be said; there are one or two which aim at being a little picturesque, not unsuccessfully; some which are harmless, and avoid bad taste; and some which are gratuitously hideous. Those who are concerned in the success of the place should endeavour to provide for some consideration for style and beauty of appearance in the houses. The beach is not nearly as good for bathing as at Bournemouth; but the sea unfortunately does not admit of being managed in its operations, even by a company.

Around Bournemouth building operations, as far as dwelling-houses are concerned, are going on with what seems reckless rapidity. All round the outskirts are to be seen houses in progress, and new houses standing empty, the supply at present being evidently in excess of the demand. The explanation of this probably is that as the length of inhabitable sea coast is a limited quantity, and the demand for seaside residence, for part of the year at least, seems likely to go on increasing indefinitely, the return for this building outlay is regarded as only a question of time, and first comers get the land cheapest. The other side of the matter is that, in the anxiety to secure land and build upon it, many portions of the place are getting unnecessarily and prematurely spoiled by cutting down trees in order to clear the land for buildings, the need for which at present seems very questionable. And even in the long run it may be found bad policy to have built too much. One of the charms of Bournemouth,—and the place has not so many that it can afford to part with one,—consists, or did consist, in the profuse intermingling of trees amid the roads and footpaths and amid the houses. Residents are already saying that the place is getting quite spoiled by the cutting down of trees; and to spoil the attractiveness of a place of that sort in order to provide house accommodation for the people who are to be attracted to it is a rather illogical proceeding, and apt to lead to disappointment. As to the architectural embellishment of the neighbourhood, an eminent decorative artist and lecturer on art stigmatised the new house architecture there, in one of his lectures, by an epithet a little stronger than we care to reprint here, though hardly too strong for some of the erections to which it was applied, considering that they were built in a new neighbourhood very picturesque in some of its natural features, and which was intended especially to be a health resort for body and mind. Here and there, among the more recently built houses at the outskirts, may be seen some tolerably presentable buildings, but the great proportion of them are entirely destitute of architectural interest or beauty. A large hydropathic institution, "The Mont Dore Water Establishment," in French Renaissance style, with high roofs, is in progress on a high site overlooking the public gardens; this is what may be called a "handsome" building in a commonplace way. The architect, we learn, is Mr. Bedborough, the designer of the Westminster Aquarium. It is in a shell state at present. The new portions of the street buildings in the actual town are as dull, heavy, and uninteresting as they can possibly be, worse than the older portions even, and that is saying a good deal; and when they do emerge from absolute dulness it is only to rise into vulgarity. There appear to be some local geniuses who conjoin the professions of architect and contractor, and a characteristic specimen of their efforts is to be seen in the new Trinity-chambers, opposite Trinity Church a kind of theatrical Renaissance, with details such as are sometimes to be seen in the box-front decorations of a showy theatre. Not far from this the building owner of a new terrace has launched out into a brilliant idea in coloured decoration, in having his own profile portrait executed in a medallion in coloured tiles, with arabesque accompaniments, on each pilaster in a range of shops. The effect of this realistic portrait,—whiskers, shirt-collars, and all,—reappearing along the whole front of "Joseph's-terrace," must be seen to be appreciated. It is to be hoped Bournemouth may rise a little presently to a notion of the desirability of employing a higher class of architects when any of the streets have to be rebuilt; for the present the mischief seems to be pretty well done. An agreeable contrast to most of the buildings is Trinity Church, before alluded to, by Mr. Ferguson, of Carlisle,—a brick and terra-cotta church, in semi-Romanesque style. The treatment of the interior, plain as it is, is marked by true architectural feeling and a considerable degree of originality in some of the details. The church has a tower which may be described as a campanile with a saddle-back roof. The natives have shown their appreciation of the building by planting a large metal clock-face on the shafts of the open arcade in the upper story, without (as we understand) the co-operation of the architect. The spire of St. Peter's, which was completed from the designs of Mr. Street not very long before his decease, is, of course, good work, but it is not a very striking example of a modern spire, and appears to us a little deficient in height, in proportion to its general scale and to the character of the building.

The cliffs at Bournemouth seem to be slowly but steadily going into the sea; but apparently through the action of land water rather than of the sea. A heavy rain generally brings down a piece, or scoops a new gully somewhere. The "oldest inhabitant" remembers when some of the cliff houses had thirty yards more land in front of them than they have now, and a more recent resident characterised Bournemouth, with feminine satire, as "a pleasant place as long as it lasts." The so-called cliffs are in fact a kind of pudding of pebbles and clay, very subject to disintegration from any disturbing cause. This is so much the case that the local authorities have been induced, owing to representations in the local papers from some one who had his eyes open, to post a placard along the shore forbidding the amusement of digging caves in the cliffs, which has led once to some unfortunate children being engulfed. The present line of cliffs will last the life of the houses on them; but people who "build for eternity," if any one ever does build so at a watering-place, had better leave ample margin for landslips. The view from the cliffs is, however, all the same as if they were solid rock, and shows a wide circle of blue sea, from Swanage Head to "the Island": a sea, however, sadly empty of the enlivenment of shipping, as the natural course of all passing vessels takes them far out, leaving to the spectator only the occasional sparkle of sunlit topsails over the verge of the horizon. Bournemouth will always have its value for invalids, owing to its warm and mild climate; for others it is a delightful place to be thoroughly idle in for a few days; after that its charms seem to pall, except for those who feel, with Walter Savage Landor, that idleness is the only earthly blessing of which it can be truly said that the more we have of it the more we want.

Newcastle-on-Tyne.—There is some likelihood of an art exhibition being held in Newcastle in the beginning of next year. The committee of the Bewick Club have been looking after the Academy of Arts, Blackett-street,—the building erected at the time when Mr. T. M. Richardson was striving to establish a permanent art exhibition in Newcastle,—with a view to obtaining it for the purpose.——A new Post-office will shortly be opened on the Quay-side. The postal authorities have taken a long lease of the ground-floor of some new buildings, which Mr. Thomas Harper is about to erect on the Quay-side. The building will have a stone front, and will be set back on a line with the new property in the neighbourhood. Mr. J. C. Parsons is the architect, and Mr. Walter Scott the contractor.

STRATFORD-ON-AVON RE-VISITED.

WITH the scaffolding still encumbering the Memorial Theatre at Stratford-on-Avon, there yet remains an excuse for introducing what might appear a somewhat well-worn theme. But as we learn every day how singularly with passing years our views are subject to change on matters apparently settled, so it may be found that points on which it has been agreed that everything possible has been said may yet afford fresh matter for consideration.

We are very fond of admitting with an element of indifferent candour that the Americans visit Stratford in much larger numbers than we English, and though of late years,—so Stratford folks will tell one,—there has been a slight decline in the enthusiasm of our cousins, the visitors' book kept at the famous house in Henley-street bears the names of many more pilgrims from "the States" than from Great Britain and its numerous colonies. Perhaps of these the majority are too sanguine in their expectations, and allow themselves to be disappointed, like a comparatively recent American visitor, Mr. Richard Grant White, whose close study of the poet had led him to picture in his imagination a modern Stratford unchanged from the days of Queen Elizabeth. And with the many dear old English villages which still exist in this "little Mother Isle" there is, it must be admitted, wherewithal in modern Stratford to cause some touch of disappointment. And this disappointment, we suspect, will be felt by all who visit Stratford-on-Avon in the conventional traveller mood. Whirled there by train, set down at however comfortable an inn, directed (by an enamelled iron sign) to the restored house in Henley-street traditionally regarded as the birth-place of Shakspeare, shown the somewhat puzzling remains of the foundations of Shakspeare's residence at New Place, and hurried to Trinity Church to have the freshly-painted monument of the great poet pointed out by the sexton, and then told that, with the exception of a peep at the brand new Memorial Theatre and a visit to Ann Hathaway's cottage at Shottery, about a mile from the town, there is nothing else to see in Stratford, such, the usual routine, is, it will be admitted, hardly a process calculated to rouse the enthusiasm of the lover of Shakspeare, still less of the general traveller in these restless days of globe-trotting.

Stratford-on-Avon itself requires certainly the largest stretch of imagination to invest it with much of the interest of Shakspeare's days, but what is too rarely visited by pilgrims to Shakspeare's birthplace is the lovely country which surrounds the humble quiet town which an accident has rendered so famous.

The old house in Henley-street, carefully and neatly restored exteriorly, its doorway decorated with a notice of the terms of admission, nattily framed in a very questionable "Oxford" frame, we can fully understand is disappointing to many visitors, however much compensation may be found in such agreeable and unconventional guides as the present custodians of the place, the Misses Chattaway. The favourable effect which must be produced on most visitors by the existing arrangement of the Shakspeare museum established in the house, we much question. To crowd together, as is here the case, a mass of interesting relics and questionable Shakspearian illustrations of every nature, the latter very largely conspicuous, is, we think, calculated in not a little degree to produce an unfavourable impression. The bewildering series of portraits (old and modern) all so dissimilar and many so singularly worthless, simply tends to excite in the ordinary mind a complete feeling of distrust, while with the serious (and well-founded) doubts attached to the so-called Stratford portrait, shown with such reverence in its fire-proof case, would it not be advisable for less importance to be attached to its professed authenticity, setting aside its evident want of artistic merit? As it is, we have enough to do to reconcile the work of the skilful burin of Droeshout, the chisel of the tomb-cutter Gerard Johnson, the brush of Shakspeare's friend Taylor (to whom we owe the Chandos portrait), and the more recently-discovered Darmstadt death-mask. Grateful though we must be to each and all, which of these is the true Shakspeare? We should desire no further complications, particularly by works of questionable faith and even more questionable merit. Critics may hesitate before the painted monument in Trinity church, may accuse the London tomb-cutter's chisel of too clumsy work with the refined features of the great poet, but as that thoughful face gazes down from the shadow of its niche in the half-gloom of the chancel, while, in the reflective calm of evening service, the pealing organ rolls through the old Gathic church, the most distant pilgrimage should surely feel fulfilled.

A visit to Shakspeare's birthplace without some acquaintance made with Shakspeare's country is, we have no hesitation in stating, a fruitless, unsatisfactory pleasure. Not to have seen either in luscious spring, in sunny summer, or in golden-tinted autumn, the tall stately elms that cluster about the gentle undulations of the country between Warwick and Stratford, the rippling, winding stream of the Avon, the calm Elizabethan quiet of the red-towered home at Charlecote, still occupied by the descendants of the family of the Lucys so identified with the life of the great dramatist; not to have passed along the great rustling elm avenue, and under the quaint gateway, above which stands the quartered blazon of the owners with their speaking arms, the three luces, nor to have strolled through the park, and startled the timid deer with whose distant ancestors the fair name of Shakspeare has been on somewhat doubtful testimony disagreeably connected; not to have been so prepared for an entry into the poet's birthplace, and on foot,—for there be those who, like Mr. Richard Grant White, the disappointed "Shakspeare scholar," have rolled in a fly along the delightful road from the gray towers of Warwick Castle to Stratford,—not to have been so prepared, is to have reduced to a certainty the sense of disappointment so often expressed by visitors to Shakspeare's birthplace.

Though at but a few hours' journey from the Metropolis,—one may read at Stratford the London morning papers at half-past ten,—*non omnibus datum adire* thither as in the case of the too famous Corinth; but when a pilgrimage or visit,—in whichever light it may be regarded,—is contemplated, let it not be in the ordinary commonplace spirit of modern travel so rife in the present day, or disappointment must inevitably ensue. For simple enjoyment of rustic simple England, and England's simple rustic scenery, that scenery in the breezy representations of which Constable and Crome have inspired a whole living school of foreign landscape art in the pupils of such masters as Rousseau, Diaz, and Troyon, a walk through the garden of England, the valley of the Avon, approaches perfection, and is indeed the only fitting preparation for a visit to the town in which Shakspeare saw the light and breathed his last.

Our forefathers fed voraciously on the literature of the ancients before undertaking a visit to Italy, and each scene of that classic soil they invested with a double interest when it could be associated with some resounding verse from Virgil or polished line from ever-pleasing Horace. But we in the present day do not thus prepare ourselves for our trips abroad, nor indeed is it absolutely necessary for the appreciation of the beauties of nature and of art; those same refined forefathers of ours so learnedly able to quote the classic authorities were already yawning with *ennui* as their post-chaise rattled them past the lovely Gothic cathedrals of Amiens or Rheims, and they shuddered with unaffected disgust as they entered the picturesque defiles of those Swiss Alps which we have now so successfully cockneyfied. It requires no deep acquaintance with the works of our great dramatist to appreciate the beauties of his country, those miles of green-clad rural England which lie stretched under the far-reaching gaze of the great gray keep of Warwick Castle.

Did all the American travellers to the home of our great poet, whose creations and whose tongue are the common inheritance of both our countries, devote more time to a visit to Stratford than is generally accorded during the rapid run from Liverpool through to Paris, we should have less disappointment expressed than at present accounts for the falling off of transatlantic visitors to the banks of the Avon; they might then, perhaps, feel even more than at present, something of that charm of our old country which genial Oliver Wendell Holmes has so lovingly pictured,—

> "With cliffs of white, and bowers of green,
> And ocean narrowing to caress her;
> And hills and threaded streams between,
> Our little Mother Isle, God bless her!"

COLLEGE OF ARCHITECTURE.

WITHOUT entering into the comparative merits of the two sciences, music and architecture, as subjects of national study, the recent institution under royal auspices of a college of the former, and the noble response by the nation to the royal invitation issued to it to establish the same, should be an incentive to the great body of architects to establish a college of the latter.

Probably there is no profession in which so much versatile ability, knowledge, and inventive genius is required as that of the architect. There is not a single art, science, or mechanical trade that one can name but what is brought into play in an architect's practice. The musician, the painter, and the sculptor are a perfect liberty to exercise their respective professions according to their own individual taste, skill, and design. This is not the case with the architect. He is thwarted in every direction. He is not even at liberty to carry out his own ideas of the style, material, and construction in which he personally would like a building erected, but is often obliged to bow to the crude whims, fancy, and caprice of his client, whose taste may be diametrically opposed to everything that is pure and beautiful in architecture. He has to sink his individuality to that of his patron.

To design a building in a certain style, dimensions, construction, and materials at a fixed price, is no ordinary task, and taxes the powers of the most gifted and experienced architect. When it is further taken into consideration that the architect has often to contend with the rise in price of labour and material, and to adapt his design that it may not interfere with the light and air of surrounding buildings or infringe upon neighbouring interests, one can readily conceive that the profession of the architect needs more than any other the establishment of a college, with its staff of lecturers, library, collection of drawings, models, samples of building materials, mathematical and scientific instruments and appliances, to render the facilities for its pursuit as perfect as possible. Such institutions exist in Continental countries and in America, and should find their place in England.

Beyond the classes devoted to architectural subjects, and established under the auspices of the South Kensington authorities, King's and University Colleges, the embryo architect has but little opportunity of improving his professional education. His education is meagre and devoid of any system whatever.

The education of the youth destined for architectural pursuits should commence from the latter years of his school life, the studies being so arranged as to more readily fit him for the profession in which he intends to enrol himself.

Special professions require special education, and should have their special schools, which, did an architectural college exist, could be established over the country, receiving their guidance and control from the national college. Such schools are established for agriculture, why not for architecture?

The education of the architect is an interminable one. Fresh inventions, new materials, appliances, and methods of construction are continually cropping up which the architect is supposed to be well posted in. This is not the case with the musician, painter, or sculptor, who has only to embody his ideas according to his uncontrolled imagination. A great deal of the time which is spent by the architectural pupil in an architect's office in acquiring a knowledge of mensuration, surveying, geometrical and perspective drawing, plain mathematics, and calculation of quantities might well be obtained in the closing years of his school life.

There is no more interesting and profitable pastime for the architectural student than to devote his leisure hours to architectural modelling. Whether the material used be cardboard, wood, or plaster, an assiduous cultivation of the art in either of these three materials would greatly promote the advancement of the pupil in the forms of construction and the technicalities peculiar to architecture. Modelling at one time formed a most important section of the architect's training, and it is only within the last few years that it has become an almost obsolete profession. Photography and perspective drawings have done much to do away with modelling; but these, even at the best, fail to give that complete idea what a building would be like upon erection as a well-executed

model does. You can walk round a model where you cannot round a drawing.

The earlier architects always made models of the buildings they designed. They were mechanics as well as draughtsmen; they could use the tool as well as the pencil, and it is a serious question whether a portion of the time of the architect's training career should not be devoted to modelling and to the larger practical work of a builder's shop. A good modeller always makes a good architect. He is able to see at a glance in a model where a building is defective, which he would fail to perceive in a drawing. Models cannot be too highly finished. They should be faithful embodiments of an architect's design, not caricatures of it.

The formation of a gallery of architectural models in connexion with a College of Architecture would be an imperative necessity and a national boon. Such an institution would be of incalculable benefit to the architect, his client, and the public. The architect would be spared many years of travel in an expensive sketching tour; he would be able to point out to his clients (who, as a rule, cannot understand drawings) the different styles of architecture, their relative merits, and adaptation to the class of building he desired to be erected; the client would have before him every illustration of the embodiment of design; he would acquire a clearer and quicker perception of the relative proportions that the various parts of a building bear to each other and the whole; the roof-plan, method of carrying off the rain-water, &c., all of which would cost him some considerable time to master in a series of drawings.

No important building should be erected without a model being previously constructed. The institution of a National Gallery of Architectural Models is of as much importance to the public as a National Gallery of Paintings, and if music and painting are made subjects of State and Royal support, there is no reason why architecture, which requires a life-long study to acquire a knowledge should not be represented in some public institution worthy of it. A collection of models of the baronial halls of England, well done, with the historical associations connected with them, would in itself be an exhibition of much public interest.

Too much importance cannot be attached to architectural modelling, as not only the best exercise of the inventive faculties, but calling into play a mathematical and geometrical accuracy of workmanship and a patience and perseverance worthy of a nobler and more remunerative art,—for, to use the words of one well skilled in the profession, and who certainly brought cardboard modelling to very high perfection, so much so as to merit Royal patronage, "the same skill, ingenuity and patience devoted to higher art would make a man a fortune, the pecuniary advantages of the pursuit being diametrically opposed to the consummation of such a happy result."

Without presuming to suggest, let alone dictate, the line of study the architectural student should pursue, evidently some better system could be devised than the mere articling the youth to some member of the profession, whereby he acquires but a meagre knowledge of the same, and is likely to become riveted to the style of design peculiar to his master.

It is simply absurd to suppose that the student in architecture can acquire in a term of service in one, two, or three offices that thorough knowledge of the profession to make him a successful architect.

His education should be as much in the workshop and on the building as it is in the office, that he might realise in the former that which he has learned in the latter.

When one looks at the difficulties which beset the architect's path, the multifarious trades, pursuits and professions with which his own is brought more or less into connexion; his knowledge of the sciences, the inventive faculty required, his skill as a draughtsman, his powers of calculation, organisation, and originalty of design and the travel necessitated, one can but acknowledge the value of the establishment of a National College of Architecture and wonder that such an institution had not been for many years a permanent institution of the land.

The École d'Architecture at Paris is, as its name implies, a school specially for the education of architects, carried on under the direction of professors. If such an institution is good for France, why not for England? How long will elapse before the architectural profession will be content without one it is difficult to say. They are a great and important body, not only elevating our minds by the beauty and majesty of their designs, but playing amost vital part to the comfort of our lives in the construction of our dwellings.

One cherishes the hope the time is not far distant when architecture may have its national representative building, which, in itself, should be a gem of architecture, and where may be gathered under its roof every facility and appliance for a due study of the profession, which stands second to none in the amount of talent, varied knowledge, and versatile ability required.

THE LONDON VESTRIES, THE GOVERNMENT, AND THE METROPOLITAN WATER SUPPLY.

A DEPUTATION from six of the principal Vestry Boards of the Metropolis had an interview with the Home Secretary on the 31st July, for the purpose of asking for the interposition of the Government in the matter of the charges made by the metropolitan water companies. On the appearance of the official returns for 1882 we hastened to call the attention of our readers (vol. xliv., p. 732) to their significance. In the five years from 1877 to 1882, we have pointed out that, while the capital expenditure of the eight great water companies had grown at the rate of 11·6 per cent., their income had increased by nearly 24 per cent., or an increase as nine to seven in proportion to the increase of the population. But the increase in the income, that is to say, the water-tax, was as twenty to seven compared to that of the population. So that in 1893, if matters go on as they have done for the last five years, a population one-third larger than that of 1877 will have to pay double the taxation paid in the former year.

The point to which we then called attention has been sufficiently felt to induce Mr. W. H. Smith, M.P., in introducing the deputation, to remark that the recent serious increase in the water rates throughout the metropolis called for immediate attention. The increase, serious as it was, had not, the right honourable gentleman urged, been extended to the utmost limit that the law allowed. There was great reason to fear that the rates would be raised to a point that was beyond endurance, and they could only be resisted by legal steps that would involve an expenditure of no less amount. Mr. Farrer, one of the deputation, referred to the history of the Acts under which the various water companies had attained their present powers, and compared the actual state of things with that existing in 1852. Under the Rating Assessment Act of 1869, he said, the companies had incidentally obtained powers to increase their charges without increasing their supplies. The minimum increase of rating since that time had been 30 per cent., and the maximum as much as 100 per cent. Had Mr. Smith and Mr. Farrer consulted our columns they would have seen that the outlook is even more definite, as well as more black, than they seem to have been aware.

We decline to enter into the counter issue raised by Sir William Harcourt, who argued that the only hope for the ratepayers was to be found in some such sweeping measure for the change of the Government of London as was projected for the present Session, but not brought forward by the Government. It should be remembered that successive Governments, for several years past, have brought forward measures for the regulation of the Metropolitan water supply. Those measures have failed, for the simple reason that the framers did not take the trouble to ascertain the facts, and the whole facts, of the case, before they undertook an alteration in the law. But after two Governments have thus emphatically admitted the justice of the claim which the water consumers have upon the administration for relief from a state of things which has grown up under direct authorisation of Parliament, the latter have, we think, just reason to complain of a backward movement that bids them wait and pay more and more until a vast measure, as to which there is a very violent contest of opinion, shall have been clothed with the sanction of law. It is true that smaller cities and more modern corporations have found the means, with the aid of Parliament, of regulating their own water supply in a manner that the Corporations, Boards, and Vestries of London have not as yet attempted, or agreed on the bases for attempting. On the other hand, it has to be remembered that a plan was brought forward for the purpose by the Metropolitan Board of Works, and that it was one which, in the opinion of many competent persons,—we need not now recall our own utterances on the subject,—only tended to make confusion worse confounded, and the pressure of rating higher, by the expedient of a double supply. Again for Liverpool, Manchester, Birmingham, and other places the Government have not taken the initiative with regard to regulating their water supply, while with regard to London they have assumed the initiative year after year.

Although, then, there is much in what Sir William Harcourt said on the 31st July which is in full accordance with our advice of June 2nd to London to speak for itself, the chief result of his speech seems to be to put an official sanction on our remark, "It is of little use to wait for aid from Government." "He would not hold out any hopes," said the Home Secretary, "that the Government would undertake to do for London what London ought to have done for itself." We will say nothing as to the "ought to have done." There may be two opinions on that point, under the circumstances. When Government was attempting to deal with the matter, although not by calling in the aid of those who had shown themselves to be the most conversant with the question, it could hardly have been admissible for London to attempt the same duty. Now, however, no reason for doubt or hesitation remains. "At the moment when a Government made proposals," said the Home Secretary, "every one became dissatisfied." That, no doubt, is an accurate remark. But the reason, we must hint, is that which we give above, viz., that the proposals of the Government,—and it is no party statement, for it applies with impartial truth to the two successive Governments,—are such as naturally dissatisfied every one. The situation was not grasped. It was conceded that the companies were the masters of the situation. This was not true. But where, except in the columns of the *Builder*, was it pointed out where the controlling element of the case actually lay? We showed at what date it would be necessary for each of the great companies to come to Parliament for further powers, and we showed that if a full, just, and equal scheme was, in the first place, reduced to system and to detail, these several dates would also be the dates at which the several companies, in order to obtain the Parliamentary sanction that they required, would be compelled to come into such a scheme. This practical advice was neglected, and thus we are at this moment in so much a worse position, as was stated by the deputation, and admitted by the Home Secretary.

Next year matters will, if they go on as they have done, be worse. If London is to wait for the passage of a Bill to provide a new municipal government, it must thus certainly wait till 1885, and probably till a much later date. Mean time the water tax is increasing, and will increase, as we have above pointed out. Four and a half per cent. per annum, we have shown, is the present increase in pressure of the water tax. Then to wait one year for a Municipal Reform Bill, and a second year for the new machinery to get in motion, and a third year for it come to Parliament with its own water-supply measure, will allow of the infliction of 13½ per cent. increase on the present heavy rating. This is the earliest hope that the Government hold out. Is it possible to say in louder tones,—Help yourselves?

We have had a recent instance of the effect of this kind of self-help, which, at a moment when the opinion expressed by the Board of Trade was to the effect that nothing would be done in the matter of the Embankment ventilators, we ventured to suggest. The advice was taken, and acted upon, and it now becomes clear that even the sanction of an Act of Parliament is not enough to insure the carrying out of a measure to which there is a strong and united popular opposition. For, after all, what Parliament does, or intends, or ought to do in any of those measures,—Gas Bills, Water Bills, Railway Bills, Tramway Bills, or what not, in which exceptional powers are sought, professedly for public as well as for private benefit,—is to see that the former is secured. Parliament, indeed, does more; for it makes a point of a *primâ facie* case of private benefit. And when it is shown that the public welfare, so far from being advanced, is injured by a recent measure, Parliament reconsiders such a measure.

Let us remember, however, that it was to the ardent and inconsiderate haste with which certain parties, who might have been expected to know better, proposed to deal with the property of the water companies without the assent of the proprietors, that the various disasters that have befallen the various Water Bills were mainly due. The pendulum swings both ways. First, it was an easy matter to deal with the property. But a legal block was in the way. Then the pendulum swung in the other direction, and we were urged to make a bargain this year because we should only be able to make a worse bargain next year. So, no doubt, it has turned out.

But what we said was, "Do not make an improvident bargain. Neither attempt any injustice to the water property-holders. They have now certain rights. These are sacred. But they cannot escape control. In one, two, or three years they will have to come to Parliament for more rights. Then is the moment to carry out a well-considered plan, and to secure justice for all parties,—for the water-consumers as well as for the water-suppliers." This is what we urged in 1878, 1879, and 1880; and this advice, if followed, would have put us in a very different position in this actual year of grace.

To that advice we must come back, although we are now at a disadvantage,—measured by some 18 per cent.,—in entering upon it, as compared to the position that we should have now held if we had so asked in 1878. No other mode of action is possible. We must weigh the actual facts. We must measure the actual rights of the companies. And, pending the time when a well-considered measure for purchase and consolidation can be carried through Parliament, we must take care that those rights are not extended. That is what we have failed to do.

And that is what a committee of the ratepayers have to do. They have seen how little use it is to come to the Government for aid. *Aide-toi, et le Ciel t'aidera.* A water vigilance committee will, at least, be able to prevent the silent passage of any Water Bill that does not include provision for the protection of the ratepayer. If it does no more, it can thus prevent the steady increase of water-rate pressure. As to the measures which the metropolis ought to take, very full and very careful investigation of the whole subject is to be found in our own columns. We do not hesitate to say that the only grounds on which an equitable and practical arrangement can be based are therein fully pointed out. But that is a matter somewhat for the future. What is now incumbent on London is to stop the great leak,—the leak of the ratepayers' money which is growing larger and larger month by month, and which will continue to enlarge so long as it is neglected by the ratepayers. That, we apprehend, can only be done by the formation of such a committee as we now suggest. And if, two years ago, our advice was held to be premature or unnecessary, let us ask how it now appears, read by the light of Sir W. Harcourt's reply to the deputation of the 31st of July?

We may be permitted to recall the main features of the measure we suggested in 1880 as contrasted with those brought before Parliament. The ultimate cost of the purchase, according to that measure, would have been 38,258,670*l.*, including no provision whatever for extension of accommodation. The annual burden, commencing at 927,774*l.*, would rise, by 1892, without any allowance for extra reserve and accommodation, to 1,252,285*l.* The income expected would be 1,402,000*l.* per annum, the working expenses 526,000*l.* per annum, and the deficiencies, 376,585*l.* per annum. That was the analysis of the Bill. By the modifications suggested in the *Builder* the ultimate cost of purchase would be 37,000,000*l.*, but in that sum was included a provision of 9,550,000*l.* for increasing the service to meet the requirements of the increase of population for nine years. The annual burden, commencing at 830,000*l.*, would be increased by 249,000*l.* a year, but that would be an increase earning a return. And by 1892, instead of a deficiency of 376,585*l.* per annum, a sum of 289,600*l.* might be applied in the reduction of rates.

How far these figures must now be modified to meet the additional strength acquired by the water companies since we brought them before our readers we are not at this moment in a position to say. It is heart-breaking work to devote much time to minute analyses of this nature unless the public call for their production. If the recent charges have become so far intolerable as to tend to a resolution of this nature, we shall be, as before, at the service of the public in this respect.

PROFESSIONAL PORTRAITS.

A PROVINCIAL COMPETITOR.

"Life was full of seriousness for him, by reason that he could never get enough fighting."—*Rab and His Friends.*

IN those few playful pages with which Thackeray prefaced his immortal treatise on snobs he shows with what unfailing certainty the wants of any particular age are provided for. That the need produces the Man (with a capital M). First, as he observes, the world was created;—after long ages the snob appeared; and in the fulness of time there arose his biographer and historian. The American revolt produced a Washington,—the French Revolution a Robespierre,—the railway mania a railway king,—and, in like manner, the competition craze produced the competitor *par excellence.* As there were, no doubt, snobs before the fully-developed article challenged attention to their existence, so there were competitions (few and far between) before the brilliant individual appeared who was to erect competition into a system,—almost a cult. I knew him well; and the familiar lineaments are deeply imprinted on my memory, never to be effaced. Like the late Lord Beaconsfield and other great men before him, he had to make his way against many disadvantages, and his victory, in so far as it was creditable to him at all, was the more creditable on that account. Appearances were against him. He was tall, crooked, sour-visaged, with a sinister look and a snub nose. His gait and manner were by no means a good introduction. He was ill educated, and ill instructed in the profession of his adoption,—which, indeed, he took up informally and by chance. His strong natural ability had enabled him to collect a mass of information of a casual sort bearing upon architecture; but he had not the patience to digest and arrange it, so that of him it might truly be said that,—

> "Very many things he knew
> And badly knew them all."

But he was not without compensating gifts. In the first place he was endowed with the most unbounded assurance and belief in himself. He had no suspicion that his person and manner were anything but agreeable. By "nature's kindly law" the afflicted, in many ways, are in a merciful ignorance as to their infirmities and shortcomings. Does not *Martha* fancy that *Faust's* jewels are left for her? and, when undeceived, wonder, no doubt, what he can see in that pale-faced *Marguerite.* In like manner our friend was possessed by the notion that his address was that of a Chesterfield, and his smile child-like and bland, and that for shrewdness and a playful wit he had no equal. He would scent out an intended meeting to discuss the erection of some public building, thrust himself uninvited into the midst of it, take up a share in the deliberations unbidden, and before they knew where they were convince chairman, committee, and all, that for the work they had in view he was the very man. He always took with him portfolios of sketches to meet every emergency, and was ready with a thousand suggestions for combining the peculiarities and beauties of each in a way that should exactly meet any case that could be propounded. He was loud and over-bearing in speech and manner; he talked the strong ones *over* and the weak ones *down,* and carried the position by a series of *coups-de-main.* If a competition had been secretly decided upon, and the first notification of it was a public advertisement, his tactics were pretty much the same. He wrote for particulars, said that his earliest experiences were in the neighbourhood (wherever that might happen to be), that it stood the first in his affection, and that the desire of his heart was to be connected with a large and important work, such as that in contemplation. Then he made the acquaintance of secretary, chairman, all who were connected with the affair and could be found, any one from the highest to the lowest who was likely to be useful to him. I have been with him on these expeditions, and noted his line of attack, and the skill with which it was adapted to character and circumstances,—the cheerfulness with which he bore rebuffs, and the perseverance with which he would follow up the slightest encouragement. His energies began but did not end here. He really tried to produce a good design, and spared neither pains nor money to secure it,—vicariously, of course. Everything gave way to the exigencies of the moment. No one within reach need stand idle in the market-place. His house was turned upside down. His most private apartments were filled with draughtsmen, and night was turned into day. With the first arrangement of the plan came a season of reserve: he was grave, anxious, perplexed, almost moody, full of alternatives, but without the strong judicial faculty which could decide between rival claims. But time did this for him. A definite scheme *must* be selected and adhered to, and, the step once taken, his spirits returned. He was always at one's side, cheery, full of encouragement and hope. At last the project was launched, and then his place knew him no more for awhile. The round of canvassing recommenced, and he took every opportunity of explaining the merits of his plans, and casting all sorts of ridicule on his rivals. If he had no good stories against them, he would invent them with ready wit. All was fair: he recognised no line below which his blows were not to be delivered. He neither asked for quarter, nor gave it. Competition was with him a trial of strength merely,—strength of head and length of purse, and he was never troubled with a single scruple as to how the day was won, if only he was the winner. And "his virtues were to his vices a just equinox," he would pay liberally for successful help, empty his pockets, and devise all sorts of junketings in the intervals between the close of one struggle and the beginning of the next. Now and then he fell among those who were too many for him,—plied him with wine, of which he was too fond, and while he thought he was getting over them, they were fooling him, and gave their vote against him.

Few men could beat him at a plan, and fewer at a scheme for the arrangement of an estate for building. He had some of the faculty which the late George Robins possessed, and of which Mr. Puff, in the *Critic,* was the first example. He saw, in his mind's eye, roads and crescents, avenues of lofty elms, purling streams, and village spires from amongst clumps of trees peeped over the horizon, and, what was of more moment, he saw how the revenue could not only be enormously increased, but made the most of. He was, perhaps, almost the earliest example of a financing architect. He was, on the whole, but ill rewarded for his great labours, and a really fine intellect has left but little mark. He was instrumental in spending on buildings of peculiar magnitude perhaps a larger sum than any other architect of his time, and his later years were passed in anything but easy circumstances. Since his time the science of competition has been extended, but it has not received any fresh development. As with Shakspeare the drama rose and reached its fullest pitch of perfection, so with the subject of our sketch, the art of competing was carried to its furthest possible point,—in one direction. It is patent to all that this peculiar institution of the architectural profession has received some amelioration in these latter years. We have just seen the completion of several such struggles which have not been conducted in the rough and tumble manner prevalent but a few short years ago, and the most cynical may trust to their skill meeting its due reward in a contest which is virtually decided by such assessors as Mr. Waterhouse or Mr. Barry. I was told by an architect, whose name was well known throughout the profession, that when the forty or fifty sets of competition plans for a public building were sent in, he, having secured in the meantime the interest of the judges, was actually deputed to seeing the works of his rivals returned unexamined. This could scarcely happen now, even in little Peddlington, and would be impossible in any matter of public concern. My typical competitor could, doubtless, have told similar stories, but such was his vanity that, if he had been the hero of the above anecdote he would have believed that the affair was in nowise discreditable, but the proper reward of unapproachable merit. He was destitute of all sense of justice in the conduct and decision of the encounters in which he so often, and often so successfully, took part; but he was liberal and open-handed to a fault, bore no malice, could be magnanimous to a defeated rival, would shake hands after the fight whether victor or vanquished, and was generous by nature to friend and foe alike; and he was not always, it is to be feared, treated with the

generosity which he extended to others. He lived in and by excitement, and his life was full of extremes,—the height of elation or the depths of despair,—his pockets either full or empty, and in nothing did he hit "silver mean." Those who had the best reason to dislike him and his ways were compelled to own a sort of affection for the *bonhommie* which none could fail to see, and there were those who, spite of all his failings, and they were not few, clung affectionately to him to the last. His type also is passing away, but it is one the world can well afford to spare.

ARCHITECTURE AND DECORATIVE ART IN FRANCE.

THE architects of France held a congress in Paris a short time ago, at the Museum of Decorative Art, in the Palais de l'Industrie. The principal topic for discussion was the consideration of the means which the *Union Centrale des Arts Décoratifs* is now employing in order to develop in France the taste for applying art to industrial purposes. On the proposal of M. Corroyer (architect, and member of the administrative council of the *Union Centrale*), M. Constant Bernard had been some time ago requested to make a critical examination of the *Salon des Arts Décoratifs*, opened this year for the second time by the association referred to. On the occasion in question, the assembled architects paid a lengthy visit to the museum, and devoted particular attention to that portion of the display forming the special exhibition of 1883.

M. Bernard subsequently presented his official report, in which he encouraged the meeting not to consider the relatively small proportions which had so far been attained by the display as precluding its ultimate development on an important scale. The first exhibitions of fine arts (held some two centuries ago) were small, and even after having been eight years established, only contained fifty-six works, according to existing records. Thus he considered that the organising committee of the *Salon des Arts Décoratifs* had done very well in bringing together 212 numbers at the second exhibition. He remarked that the arrangements for giving prizes might be upon a scale of greater liberality. He also spoke of the want of clearness found by some in the expression "decorative arts," and in discussing its real meaning he referred to Bacon's definition, that art consists in man adding his soul to nature. While admitting the difficulty of rendering the term a perfectly clear exposition of all that is contemplated by it, he gave in his remarks special attention to one phase of the subject, by seeking to define the limits of decorative art, and in a particular manner its relations with architecture.

According to some opinions, he remarked, the term *decorative* indicates art of secondary importance, restricted to the ornamentation of objects of daily use, of furniture and tissues, in fact, an entirely imitative art, inspired by the traditions of the past, or copying, in a more or less skilful manner, the creations of veritable art. While admitting that, even within the limits thus defined, there is scope for much interesting work, M. Bernard sought to prove that such a restricted application of the term was not advisable, expressing his conviction that every art becomes decorative when it borrows, either from its own centre or from other arts, elements of beauty without which it would remain incomplete, or would be deprived of a portion of its artistic value. Thus an artist who utilises his talent and invention in designing ornamental works for the ceramic, carving, or textile industries is carrying out the practice of decorative art, and the works thus brought out possess all the value and elevation with which the artist is himself endowed. Architecture, almost always decorative, becomes more specially so when the monuments it creates are intended to form part of a whole,—to lean in some degree upon existing monuments, or to complete the work of nature. Thus public fountains, triumphal arches, porticos, and various other edifices naturally suggest themselves as belonging to decorative architecture.

With reference to the interest with which architects would examine the works exhibited in the *Salon des Arts Décoratifs*, M. Bernard remarked that the supremacy of architecture over the other arts of design is one of those truths applicable to all times, which are never disputed, but are sometimes lost sight of. He referred particularly to the want of recognition on the part of the general public of this supremacy, usually acknowledged by artists. This fact he ascribed to the circumstance that the influence of architecture upon the arts which concur in its work is not always visible, and, it must be admitted, is not always real. Thus the grouping together of painting and sculpture in their primitive character affords the architect, who examines this display, an opportunity of studying the best means of exercising the rights of precedence enjoyed by his art.

THE CASTLE OF FROHSDORF.

THIS edifice has within the last few months attained a melancholy celebrity as the scene of the Count de Chambord's last days. Frohsdorf (or Froschdorf) is situated in Lower Austria, to the south of Vienna. The aspect of the castle is a striking one, the royal standard with silver *fleurs-de-lis* on a golden field making the looker-on doubt whether he is in Austria or in France. The surroundings of the castle are French, and that language is currently spoken in the adjacent village.

According to the Vienna newspapers, the building is a sober edifice of sandstone, devoid of architectural taste, and dating from the *rococo* period. Its form is that of a massive quadratic structure, in two stories. The sole ornamentation consists of stone lilies, alternating with royal crowns, with, here and there, artificial ornaments in the shape of floral arabesques, which serve as a framework to the royal lilies. Frohsdorf has never possessed anything of that state and brilliancy which usually appertains to a royal abode, even to that of an exiled potentate.

The entrance-hall is described as being imposing in its appearance; large pilasters support the cross-vaulting, and these (as well as the capitals of the pillars) exhibit frequent representations of the lily emblem, some being painted and some worked in stone. To the right of a person entering rises from a massive block of porphyry a statue of the Maid of Orleans, executed in Carrara marble, by the Roman sculptor, Rimaldi, a pupil of Canova, this work having been carried out in 1830, by order of the Duchesse d'Ecars. The figure is in full armour, and the countenance is directed towards heaven, with an expression of devotion. An inscription on the pedestal records the fact that Joan of Arc snatched from the English the sceptre and crown of France, and caused the king, her master, to be crowned. Opposite this statue is a very large weather-beaten stone tablet, representing the Valois arms, and inserted in the wall. The royal lily, of course, takes a prominent position in this heraldic work, and there is also an inscription, in small Gothic writing, in honour of Louis XI. The tablet comes from Plessis-les-Tours, which was the residence of that monarch.

The house is rich in pictures, many of them being of personal and historical interest. The Count de Chambord's likeness, at various periods of his life, is to be met with in different parts of the castle. The collection of mediæval weapons and armour is spoken of as being extensive. About two years ago the Count had a room built which commands magnificent views upon three sides. The Leitha mountains and the Semmering form objects of special interest in the landscape, while the valley of the Danube contributes elements of pastoral beauty to the scene.

HUMPHREYS' HALL EXHIBITION.

AT our visit to the above on Monday evening everything was sadly behind hand. Many of the exhibits had not arrived. Many were unpacked. Some were in process of arrangement on the stalls; and some of those which had been so arranged were covered up with cloths to preserve them from the dust and dirt incident to the surrounding bustle. In the face of all this, the *Times* contrived to print on Monday morning a somewhat detailed account of the exhibition,—a feat showing more than ordinary journalistic skill. It is impossible to give anything but a very general idea of the display, which is not large, as may be supposed, and not particularly varied. There are oak and American walnut buffets *à la mode*; and there are variations on what s becoming a little tiresome by repetition, furnished by Staub's *quasi* Belgian designs for furniture, although it is variety only, and not improvement, which they afford. There are some "Sheraton" and other cabinets in rosewood and marquetrie, of delicate design, and the perfection of mechanical finish and workmanship,—notably those by Mr. Stringer,—and there are some "suites" of dining-room furniture of very ordinary character indeed. These exhibits all fail in the point of art. The carving is, for the most part, execrably bad; but, as was said of the British army, "it is fortunate there is so little of it." Amongst other "attractions" there are to be seen a collection of brass and iron bedsteads, and those folding machines with cretonne cushions, which are "contrived a double debt to pay." Whether these come under the "Mediæval," the "High Art," the "Ecclesiastical," or the "Decorative" section of the exhibition we cannot say; they are such as may be seen in any variety and any quantity in the Tottenham-court-road. There are, moreover, stalls which have little else to show but rolls of linoleum; others have glass brackets and flower-stands, and such like. The "Cincinnati Majolica" department was a barren waste of green shelves on the occasion of our visit, and what it has in reserve for us we cannot at present say; nor what the stained-glass stall of Mr. Wilkinson will have to show. Many well-known manufacturers of artistic furniture and fittings are conspicuous by their absence, and it may almost be said that "art" proper is represented solely by Messrs. Jones & Willis's display of lecterns, fonts, and church plate. The rest of the show is taken up with articles which can be seen in shop-windows all over London, and for that matter, in any first-rate country town.

We can quite understand the reasonableness of an exhibition which gathers into a focus the manufactures of all the world, or which brings together for convenient examination and study a concourse of various specimens of one or more branches of art and industry. We wish well to the exhibition in the Humphreys' Hall, as we wish well to business enterprise in every form when honestly conducted, but we are at a loss to imagine where the public is to come from who will pay their shillings to see brass bedsteads and rolls of linoleum, or having an appetite for this form of entertainment will prefer to indulge it within the four walls of a hall rather than in a leisurely stroll through the West End on a bright autumn afternoon. The building in which this exhibition is located is, externally, a handsome one, and by way of a parting benison we will add that the stalls are presided over by courteous attendants and, so far as our inquiries went, the articles exhibited were decidedly reasonable in the matter of price.

THE MUNICIPAL BUILDINGS OF LONDON.

IT is questionable whether it is possible to find a better illustration of the maladministration of the present government of London than a survey of the buildings devoted to that purpose. In a provincial town of from 20,000 to 50,000 inhabitants, the town-hall, as a rule, is the most imposing (excepting, of course, the parish church) building in the place; but in London, with its thirty-eight local parliaments, independent of the City Corporation, the municipal meeting-house, with but few exceptions, is difficult to find, and comparatively of microscopical dimensions. It was not until 1879 that the Holborn District Board of Works purchased the freehold of a piece of land for 18,000*l*., and built a town-hall and offices at a cost of 32,000*l*., the money being raised by a loan spread over a long term of years. The large hall will hold 1,000 persons, and by being let for public meetings, concerts, &c., earned 1,146*l*. the first year it was opened, which amount was increased last year to 1,515*l*. In 1880 the Vestry of Kensington erected a town-hall to seat 1,000, the land costing 11,800*l*., and the building, 33,169*l*. This has proved even a greater success than the Holborn one, the revenue for the year ended the 25th of March, 1883, being 2,657*l*., showing that while the building is an ornament and a great convenience to the parish, it is also a good investment. But while there is this healthy vitality in Holborn and Kensington, the two largest parishes in the metropolis, St. Marylebone and Lambeth, do not even possess a vestry-hall, capable of seating the 120 vestrymen who are

charged with the administration of the affairs of each of these parishes,—Lambeth, with its 253,569 inhabitants, and Marylebone with 155,004, and each an annual rateable value of nearly a million and a half. The building that does duty for the latter parish was erected as far back as 1824. With respect to Lambeth, which is destitute of a public hall worthy of the name, the Vestry at their last meeting decided to erect a town-hall with suitable offices in the general interests of the parish, and referred the question as to the best means of doing this to a special committee to report upon. Another great parish, St. Pancras, the rateable value of which is even greater than Lambeth or Marylebone, has a hall that will hold about 1,000, which cost 3,488*l.*, in 1847, and which is let for a nominal charge. Going east, the Shoreditch Town-hall, which was built in 1868 at a cost (including land) of 28,000*l.*, will hold from 1,800 to 2,000 people, the annual revenue obtained from it being about 1,000*l.* gross. The premises of the Limehouse Board of Works are not let for public purposes, and the St. George-in-the-East Vestry-hall will not accommodate more than 400, consequently the lettings are very few. The Poplar District Board of Works offices cost between 9,000*l.* and 10,000*l.*, exclusive of land and furnishing, will hold 600, but are not let. The same may be said of the Mile End Vestry-hall, which was erected in 1860 at a cost of 3,993*l.*, exclusive of fittings. The St. Luke's Vestry-hall has no provision for accommodating others than the Vestry, Guardians, and their officers. It was built in 1867, and cost about 9,000*l.*, exclusive of the land, which is leasehold. Built in 1858, the Islington Vestry-hall accommodates 120 vestrymen, but is not let for meetings. The building cost 6,868*l.* 1s. 10d. originally, but there has since been 2,000*l.* laid laid out in additional offices. The freehold of the land was purchased for 1,550*l.* The Hackney District Board of Works have a rather more pretentious building, which cost 14,000*l.* in 1866, and the land 1,000*l.* The board-room will seat about 500. It is let occasionally at a nominal charge to cover actual expenses. The Paddington Vestry premises were erected in 1853 at the frugal cost of 6,000*l.* There is an outer hall capable of holding 200, and an inner hall with room for about eighty persons, but no revenue is derived from either. The St. James, Westminster, Vestry Offices are somewhat similar, with the exception that there is an annual revenue or 5*l.* 5s. The building cost 8,000*l.* The Chelsea Vestry-hall is an improvement on this. It was built in 1860, on land the gift of the lord of the manor, at a cost of 11,000*l.* It will hold from 600 to 800; the average lettings for five years being 135*l.* In 1877 the Hampstead people gave 2,800*l.* for a piece of land and built a public hall, board-room for the Vestry, and offices, at a cost of 14,000*l.* The large hall will hold 500, and earns 360*l.* a year. On the south side of the Thames, the ratepayers as a whole are worse off in the matter of municipal buildings than those on the north side. The Rotherhithe Vestry, for example, meet in a room at the Workhouse; and the St. Olave's District Board of Works, in the absence of anything better, transact their business in the vestry-room belonging to St. John's Church. The adjoining Vestry of Bermondsey, however, have a magnificent block of premises, opened last year, which includes a large public hall that will seat 1,400, board-room, offices, &c. The cost was about 25,000*l.* The Newington Vestry-hall, which has a fine frontage on the Walworth-road, was opened in 1865. The ground is held on a lease for 99 years at a rent of 96*l.* per annum. The building cost 10,735*l.* 12s. 4d. In the large hall the seats are arranged to accommodate seventy-two members, and the gallery will hold 200. No revenue, however, is derived from its use. The St. George-the-Martyr Vestry premises in the Borough-road are similar to Newington, but not so new. The headquarters of the Plumstead Board of Works, built in 1864, is held on a ground-rent of 13*l.* 10s. per annum. The building cost the moderate sum of 2,696*l.*, and the large room will hold 250, but no revenue is obtained from its use. The Greenwich Board of Works have a substantial block, which was opened in 1877, and cost 8,000*l.*, exclusive of the land and furnishing, which cost another 1,500*l.* each. The large hall is not let for meetings or concerts. At Lewisham, the District Board of Works have a very ornate building which was built in 1874-5, at a cost of 11,000*l.*, and 1,010*l.* for the land. The board-room will hold about 300 persons, and is let occasionally for charitable purposes. In 1881, the Wandsworth Vestry opened a town-hall, which cost them 10,000*l.*, and the land 2,000*l.* The hall will hold 600, and the revenue derived from it is about 300*l.* a year. As for most of the similar large buildings, the money was raised by a loan from the Metropolitan Board of Works repayable in half-yearly instalments, spread over thirty years. The premises used by the Wandsworth Board of Works looks more like a country police-station than the head-quarters of an important public body. The Tooting vestrymen a short time ago purchased an infant school from the London School Board for 1,250*l.*, and the lettings for the past six months had realised 25*l.* Another large parish that is very badly off in the matter of public halls is Camberwell, and although the Vestry premises are somewhat modern and well-appointed, no attempt was made to provide for the general public and at the same time ease the rates by so doing. The last new public building that has been opened in London is the Westminster Town-hall, which is provided with a council-chamber, committee-room, offices, &c., and cost something like 30,000*l.* From the above it will be seen that in the case of the Shoreditch, Holborn, and Kensington Town-halls, a very considerable revenue is obtained from letting the hall, while other equally important parishes are not only without such accommodation, but have no place to properly accommodate the gentlemen elected to carry on the work of their respective districts. That this should be the case is a matter to be wondered at, seeing that the cost may be spread over thirty years, and have no material effect upon the rates, while the outlay may be made a source of revenue.

THE STUDY AND THE WORK-ROOM, FROM A HYGIENIC POINT OF VIEW.*

THE plan and disposition of the study are points of no small importance; a study may be so planned as to permit at convenient intervals of its occupant varying the monotony of his work by a short walk,—thus avoiding the injurious effects produced by one attitude being too long retained; however small may be this dose of physical exercise, its influence is in the highest degree favourable; Dickens, if personal recollection do not deceive us, most ingeniously varied his position during literary labour by sometimes working at a standing-table on which would be placed all the requisite writing materials, and when tired continuing his work sitting at the desk. A room of greater length than breadth will be found to largely induce the exercise which, without affording any interruption, agreeably varies the monotony of a seated position. The size, form, and aspect of the study are, it will be seen, most important points. To the means of ventilation particular attention should be given; many students smoke when at work, thus adding a fresh element of vitiation to the air, so rarely renewed in the ordinary study. Who is not familiar with that peculiar odour which seems to be the special feature of the study of the writer, the scientific man, or the *employé* generally, a vitiated air to which human nature, however, seems successfully able to accustom itself.

On this one important point of ventilation Dr. Riant has much to say that is worthy of notice. *Automatic* ventilation, he urges, is alone feasible, no mechanical system requiring personal attention being advisable in the room of any student; Dr. Riant counsels the use of a hollow metallic cornice, divided into two separate and superposed canals; the lower introducing fresh air, distributed by numerous openings in the tube, the upper canal connected with the chimney, carrying off the vitiated air, a system which, while expressing his sage doubts, resulting from experience, of most mechanical means of ventilation, he states will be found to work admirably in winter when the windows are rarely, if ever, opened, and the fire (that simplest and most effectual of all ventilators) is lighted. The arrangement is not unknown in England. In the matter of the temperature of the study, this is usually kept far too high; a temperature, he states, much exceeding 14° to 16° C. (about 60° Fahrenheit, ample in the study) only serves to congest the brain, already overheated by prolonged intellectual labour, and this view, we think, can be confirmed by the ordinary observation that all of us have made of the constant headaches from which in winter the occupants of well-heated rooms so often suffer; an excess of temperature is further dangerous from the risks attendant on any sudden change such as is certain to be encountered on leaving the room in a house not heated throughout. In all cases, for heating and ventilating purposes, we advocate the superiority of the open fire over all stoves. The house may be heated by stoves, but in any room occupied during several hours, the open fire, from more points of view than one, is to be recommended. Where draughts, however, have to be overcome, hot-water pipes are valuable.

Our author devotes no small attention to the mode in which the workroom should be lighted, and though for the ordinary study this point presents none of the difficulties which require to be solved in lighting a large room occupied by a number of persons, yet it none the less merits consideration; an excess of light is little to be feared, but an insufficiency of light in the workroom is most disastrous in its consequences. No cause of short-sightedness is surer in its effects. Dr. Riant lays, and in our opinion with reason, no small stress on the injurious influence of all light coming from the lower parts of the window, injurious, because it is invariably reflected light. To the important question of the means by which the study is to be lit at night, special attention should be given; the danger of the vitiated air produced by the lamp, according to the material burnt; the injurious influence on the eyes, of all direct rays of light; these, and many other points, which the hygienists have by no means satisfactorily settled, are not without their importance. Our author's third chapter is closed with an invaluable consideration of the points connected with the general furnishing and fitting-up of the workroom. Of green, the usual colour for the walls, he bids us be wary, strongly recommending some wall-covering which may from time to time be washed. Simplicity in the design of all furniture he warmly urges for the sake of cleanliness, dust being the chief enemy. The height of the table and the chair, their relative distance from each other,—points which have of late years received no small share of attention in the schoolroom,—are equally worthy of notice in the study and the workroom; most of the furniture being purchased ready-made is too often but ill adapted for its purpose, and not unfrequently disposed in the apartment far more with a view to effect and convenience than to practical use. It is an excellent, however apparently amusing, piece of advice that one's chair should not be so comfortable as that one is loth to quit it; a necessity for an occasional change of attitude is to be recommended. Dr. Riant, in fact, formulates a most cogent maxim when he urges that hygiene and what is understood as "comfort" are not always synonymous; the thickly-curtained and carpeted study may be comfortable, but it is far from healthy or cleanly, and cleanliness is one of the chief conditions exacted by the hygienist.

In the chapter which is devoted to the offices and workrooms occupied by Government and other *employés* there is much that is worthy the attention of the architect, who is too often obliged to sacrifice the necessary conditions to the exigencies of his plan, or his façade; we in England suffer quite as much in this direction as our neighbours. Any building planned to be used for offices requires no small amount of consideration from the hygienist's point of view. But, as our author truly remarks, in the dispositions to be adopted for the arrangement and maintenance of the study, the workroom, or the office, how can we hope that the requirements of hygiene should be consulted or applied, as long as the fancy of our architects replaces a science as yet but very exceptionally taught, and as long as landlords and governments only regard the consideration of these requirements as expensive, troublesome, and superfluous points, as long as the public itself remains, through ignorance, indifferent to the conditions indispensable for the preservation of health?

Space forbids our entering as fully as we could wish into the medical and other bearings of the life led by those employed in sedentary occupations, the relative mortality in the intellectual professions, the rules for a regular plan of life to be followed by the intellectual toiler, a point which enables the example of many famous men to be cited, from Walter Scott to Thiers and Scribe; the dangers of overwork, the injurious

* See p. 242, *ante*.

effects of "cramming," the consideration due to the brain, the eyes, and the hand; the regimen to be adopted, the exercise to be taken, all these are points which Dr. Riant considers, each and all, with no small care and attention.

FISHERMEN'S COTTAGES, AS THEY NOW ARE.

MUCH has been, time out of mind, said on the great subject of house architecture, and on the buildings which in all parts of the world help to illustrate it, and through it the histories of each of its nationalities. But this has concerned itself mainly with the great palace buildings of each age and country, and can hardly be said, except by accident, to touch, and certainly not to fully illustrate, the common habitations, and houses or cottages, of the humbler inhabitants of a country. It is a subject of no small import, but it has not attracted that amount of attention which it might so well have done, and which its importance deserves. And it is somewhat curious, when we think about it, that it has not done this; for it is quite certain that before palaces, temples, and tombs could have been built, there must needs have been simple town houses, or habitations, whatever the materials, of some kind or other, more or less characteristic of each race and time. We have many times called attention to this somewhat neglected though important subject, and do now through somewhat more than a passing glance at the series of models and drawings of fishermen's houses and cottages, and even huts, forming part of the great show at South Kensington. It is true they form but a very small and insignificant item in it, but they are not the less interesting and suggestive.

It would take up some space to give even a slight idea of the many and divers ways in which the habitations of humanity in early days, and in far-off countries and even in our own, have been constructed, and of the materials used in them. We would cite only one or two by way of example, and to show how fertile the subject is, and how far it might lead. Illustrations there are true and ample, though much more might be got at, if but the subject would be made of sufficient interest, and this, as we think, it might well be, quite as much so certainly as is called forth by the almost infinite variety of vessels, ships, and boats from every nationality and date, as now to be found at the great fishery show; for if the vessels and their several details of management, with their machinery for the catching of fish, and thus supplying additional food, are of interest, and attract the curiosity of so many, both wise and simple, then most surely must and would the hall or houses and living-rooms of the fishermen themselves from all the divers nationalities of the world create as much, or even perhaps more, of this curiosity and interest. We cannot but think that this is amply shown by the eager curiosity evinced by the hurried sight of the Royal reception-rooms in the English section of the great show.

But leaving this perhaps too large view of the subject for the present, we would but say a word on an item of it, which has long occupied attention, viz., the special dwellings of the more humble and hard-working members of the great human family,—the cottages or small houses for farm-labourers and fishermen, miners, mechanics, and others somewhat removed from towns, and not actually living in them and in their lines of streetways. A cottage we might, perhaps, conveniently define as a small house of two, or four, or five rooms, standing somewhat apart from others, and thus possessing, or at least allowing, of a certain individuality and even character of its own. Each of such humble dwellings commonly stands by itself, and in its architecture, if the term may be allowed, betrays both the scanty means as well as the individuality of its contriver and builder, and the rough uses to which it must needs be put, and to which it can but adapt itself. The interiors of these sea-beaten dwellings, when for the fishermen, are as rough to the full as the exterior, yet is there in them a certain "comfort" to be found, the result, may be, of contrast, and it is mainly to add to this comfort and habitableness in his home that this great display of the fisherman's needs has been inaugurated.

There are at South Kensington several models and drawings of such sea-side dwellings as those we are now speaking of, from different parts of the world, and they are of much interest to those who look into such matters, and into the humble beginnings of great things. But few of those who may have wondered at the fish supply of huge London can have much, if any, idea of the mode of living of those who supply it all, and who do the hard work of it, and how they live, and in what sort of habitations. Some curiosity has, it is true, at times been felt in this, and it may be useful at this moment to point to a few examples in actual use, and inhabited, of those fishermen's houses or cottages, weather-beaten as they are. The models and drawings are to be found in the Eastern Arcade,—Nos. 545–549, a model of a fisherman's house of two stories. This is simply an ordinary dwelling-house of the kind usually to be found in the smaller towns in England. Then we have near it a Shetland fisherman's cottage, furnished in the usual way. It contains but two rooms, the walls of concrete and the roof of thatch. Next, a fisherman's cottage, facing the sea, of one story, with two rooms for living and sleeping. Then a pair of ordinary houses, with out-house; and, lastly, a drawing of a fisherman's house, with stone walls as on the South Coast.

And there are in all this, little as it is, many things not a little suggestive, for we need hardly say that all round the coast, and the smaller islands round and about it, some points are of deeper and more novel interest than others. And there is none more so than that of Shetland, to cite but one of them. This has other points of interest as well, for it carries us to other times, and other conditions of human existence; for the old Norseman comes again into almost living existence, for the street scenes, and the very names written up over shop-windows, and even the very talk of the common people, carry us away into other times and other life modes, while the country immediately round and about the small towns is equally strange, and out of the common way. The cottages here are all of them straw-thatched, and all have a rude kiln for drying corn, and the whole process, with the making of the bread, is of the very rudest and most primitive kind. Indeed, the cottage architecture here is surrounded by and shelters things and objects as rude as itself, and there are in all that is visible in and about it perpetual remindings of another condition of things, and of other times. Much more might here be said, but we should be in danger of going somewhat too far, may be, into detail; we would therefore but add, by way of suggesting further inquiry into so curious a subject, that this small insight into it should not end here, but that the more permanent of our great museums should not allow any opportunity to pass of adding to our knowledge of so curious a subject.

THE CONSTRUCTION OF FIREPROOF WALLS WITH SELF-BINDING MORTAR.

IN the construction of fireproof, or, more properly speaking, fire-resisting walls, the mortar hitherto used has been either refractory clay or else a mixture of the latter with finely ground firebrick. Herr Fritz Lürmann, in a short paper which has recently appeared in *Stahl und Eisen*, deals with this question principally as it affects the construction of blast-furnaces, coke-ovens, generators, &c.; but as his observations apply to other structures intended to resist the effects of fire, we quote them. The author says that so-called fireproof mortars are neither self-binding nor do they combine with the refractory bricks employed. Fireproof brickwork, consequently, does not hold together well, as is the case with ordinary brickwork constructed with hardening lime or cement. Now, fire-resisting brickwork, such as is employed in blast-furnaces, for instance, is exposed to great pressure, like ordinary brickwork; but it is at the same time expanded by the physical effect of heat, and chemically changed and melted off, through the combined operation of heat and the substances contained in the space enclosed, such as slag, glass, &c. Thus, even during drying, preliminary heating, and starting of structures consisting of refractory material, a shifting of the bricks takes place if mortar has been employed which does not bind well. The joints open, the mortar drops out, and, even before work proper is commenced, the cohesion of the supposed fire-resisting brickwork is destroyed. It need not be pointed out here how such disturbing causes hinder successful working.

In order to give the required cohesion to walls of refractory bricks at once, enabling them to resist the preliminary heating and starting, Herr Lürmann proposes to construct them, contrary to the present practice, not with so-called fireproof mortar, but with a self-binding mortar of lime, dolomite, cement, slag, glass, &c., with the addition of sand, clay, firebrick, &c., which frits at high temperatures. This self-binding mortar, ground very fine, is mixed with water to a consistency permitting of the use of very thin joints. Walls thus constructed are stated to form a compact whole, which expands equally, without shifting of bricks or dropping out of the mortar from between the joints. As soon as very high temperatures are reached, the mortar sinters either partially or wholly, and frits with the refractory bricks. It is best to use small bricks, for larger bricks are generally not thoroughly burnt through, and might give rise to shifting. It is only with small bricks that an equally-expanding wall can be constructed, and, through the employment of self-binding mortar, converted into a solid fire-resisting mass. The latter, from the same cause, will also contract equally during cooling.

JAPANESE METAL WORK.

IN a lecture recently delivered by Herr G. Richter, of Stuttgart, before the Polytechnische Gesellschaft, on "Japanese Art," the author dealt principally with the skill exercised by the Japanese in working metals. He first introduced a few remarks on bronze as employed in Japan. He stated that the name "karakana" for metal points to the conclusion that the manufacture of bronze was introduced from China. But it must have been known in Japan a very long time, for the first Europeans who visited the country found bronze guns and small arms. Japanese bronzes contain principally copper and tin, with a small addition of lead or zinc. In the second half of the fifteenth century, a certain Yuido, a friend of the painter Motonubu, exerted a great influence upon the development of the manufacture of bronze. He was the founder of ornamental art, and celebrated for his great skill in preparing models. The principal products of the Japanese bronze industry are figures, vases with flowers or birds, decorations, or both combined, as well as fishes, dragons, censers, &c. The execution of the bronzes points to great care being employed, and the casting of large dragons and other objects in one piece has hitherto not been accomplished by any other nation. The best bronzes are made for the temples. A vase and a candlestick are placed one on each side of the god, in the centre a censer, and below two lanterns. The old vases and candlesticks were formerly not made in pairs; each formed a separate work of art. The manufacture in pairs was only encouraged later, by the export trade which set in.

Great care was also formerly exercised upon the ornamentation of swords. The guards and the handles of daggers and knives were adorned by the most beautiful bronzes. The sword-guards and the dagger-handles are made of chased iron inlaid with bronze. No less artistic are the "netzkys" or the "kanemonos," which are buttons serving the same purpose as the former, but are also used as sword suspenders. They are decorated with charming coloured bronzes, each being a perfect work of art. The alloy of bronzes of blue-black colour, principally employed, and called "shakudo," consists of copper with three per cent. of gold. An alloy consisting of three parts silver and one part copper gives a silver-grey colour, called "shiubu-ichi."

The art of working iron has attained to a perfection in Japan, the author said, which justly deserves the admiration it has called forth. Witnesses of this excellence are the old sword-blades, which are richly ornamented. A master in the art was Miyochin-Meneharu, who lived in the sixteenth century. One of his works, unique of its kind, is in the British Museum. It represents a sea eagle, standing with extended wings, bristling plumage, and outstretched claws, upon a rock. Each single feather is wrought, and the whole is so true to nature that it deserves the appellation of unique.

Proceeding to two other branches of metal-working, enamelling and *cloisonné*, the author said that it had not been proved when the art of enamelling was first introduced. It is

affirmed with certainty that it has been known for centuries. In enamelling copper, the enamel is applied to the object, the form of the flower or arabesque being completed. The Japanese are such experts that they finish with one colour everything that has to be done in that colour; they then follow on with the other colours, until the whole work is finished.

In working *cloisonné*, the process is more complicated. The gold wire employed is rubbed with the juice of a kind of onion. That juice is so sticky that it fixes the wire on the surfaces, and the figures made are then filled in with enamel. In both processes the object is placed in an oven, which is heated until the enamel begins to shine. As soon as the lustre appears, this is a sign that it has been melted. The process requires the greatest care; for, should the oven be over-heated, the enamel is burned, and drops off. It also happens that the enamel is too thin in some places, when it gets burned before the other parts are finished. When the object enamelled has become cool, the inequalities are rubbed with a fine sandstone by hand, and the enamel is finally polished.

Another method of enamelling is to cut out the figures in metal. The deepened portions are then filled in with enamel, and the whole is treated in the same manner as in the other process. Metal plates with raised and smooth enamel are used as inlays for drawers and other articles of wood. Both kinds of enamel, especially those of many colours, are also produced on porcelain. A lacquer-like enamel, like *cloisonné* work, is used for wood. This is an invention of more recent times. Chinese *cloisonné* long enjoyed the name of being the best. But the Japanese have eclipsed it in the purity and beauty of colour and the art of decoration. They are unequalled in this respect.

ST. MARTIN'S PRIORY, DOVER.*

THE Priory of St. Martin, in Dover, dates its origin from the year 1130, when the buildings were commenced under Archbishop Corboil. They were probably completed under the direction of his successor, Archbishop Theobald. Taking into consideration the size and extent, the character and magnificence, of the structures, the Priory must have been one of the grandest of the religious houses in England. Before its suppression, the buildings seem to have fallen into a state of dilapidation. Having suffered damage from the French forces at the close of the twelfth century, the Priory was surrendered to the See of Canterbury in 1555. The process of decay then went rapidly on, the materials being removed and used for various purposes, so that, at the present moment, out of nine structures, three only remain in preservation,—the gateway, the refectory, and the guest-house.

Portions of the boundary-wall enclosing the Priory are still in existence. The wall on the north side is in good order, but the portions on the east and west and south sides have been removed, except a small portion near the gateway. They enclosed the Church of St. Martin, the chapter-house, the cloisters, the dormitories, the refectory, and kitchen, all grouped closely together. At some little distance was the building known as the guesten-house, on the north-east corner, a building probably for the accommodation of some of the dependents, and on the north-west side was a capacious barn. Of these several buildings, three have entirely disappeared, viz., the chapter-house, the dormitories, and the barn; of these, we have portions of the ruins *in situ*, viz., the church, the cloisters, and the houses in the north-east corner, and the other three are preserved, and now utilised,—the refectory, the guesten-house, and the gateway.

In 1840 a lease for building purposes was granted to Mr. Parker Ayers of a large part of the Priory estate on the south side, including the boundary-wall, a large part of the church, and the chapter-house. Up to this date much of the foundation-walls of the church and chapter-house were above the ground-level; and by the kindness of Mr. Ayers, who, before the demolition of these ruins took place, drew a rough plan and took the several measurements of the church and chapel, I have been furnished with the following details, the correctness of which is borne out by the fact that there are certain portions still in existence of the foundations, by which the measurement is compared. The external area comprised 24,971 feet, exclusive of chapter-house. The internal area was 20,328 ft. The plan of the church was cruciform, with a tower in the centre of the cross. It consisted of a nave, two side aisles, north and south transepts, and choir. The length of the interior was 285 ft., the length of the transept was 155 ft. The width of the nave was 33 ft., and of each aisle 15 ft. The length of the choir was 50 ft. and the width 20 ft. The walls at the eastern end were about 7 ft. in thickness (that at the western end was about 5 ft.), and were formed of rubble, principally flint grouted with beach gravel and chalk lime, with Caen stone enrichments. The roof was supported by pillars on square bases, four on each side in the nave, each base being 5 ft. square; and two on each side in the choir. These bases were found to be of Bethersden marble. There were chapels on the east side of the transepts and also in the choir.

Under the foundation of the chapel, on the south-eastern corner of the choir, were found twenty-four pieces of silver coin of the date of Henry II., which were deposited in the Dover Museum by Mr. Ayers. Archæologists are indebted to this gentleman for having drawn out and preserved a plan with these details, for the ground was levelled, the foundation-walls broken up and used, the bases of the pillars destroyed, and now, with the exception of a few portions which still remain as landmarks, there is nothing to indicate the grandeur and magnificence of this edifice. Portions of the carved stones which have been preserved will be pointed out, which show the elaborate workmanship bestowed on the fabric. Adjoining the north-eastern extremity of the transept was the chapter-house. A portion of its eastern end was removed in excavating for building purposes, and Mr. Ayers preserved the measurement, which he gives at about 56 ft. by 25 ft.

The Priory Estate was held under lease for many years by the family of Coleman, who, being extensively engaged in agricultural pursuits, have assisted in the preservation of the buildings, which still exist. The refectory served the purposes of a barn and storehouse. The windows were mostly closed up, the doorway built up, and the roof patched and mended so as to keep out the weather. The building called the guest-house, against the east end of which the cottage residence occupied by Mr. Coleman had been erected, was similarly used, and communication by a doorway into the interior assisted in its being an adjunct to his domestic arrangements. The gateway had suffered more in the way of dilapidation, but the external walls were preserved.

In 1868, Mr. Chignell obtained leave to make use of the refectory, having a school in one of the adjoining houses, for a recreation-hall for his pupils. Having let some daylight into the hall, he saw its architectural beauties, and his mind was at once directed to its restoration. He suggested the formation of the College Company, who should lease as much of the Priory Estate as they could obtain, and restore and preserve the remaining edifices. The company was formed, and the first portion of the work of restoration was carried out under the direction of Mr. Tavenor Perry, M.R.I.A. (who published a small pamphlet on the Priory of St. Martin), Mr. Chignell undertaking the heaviest part of the expense. The roof had to be entirely renewed. In his pamphlet Mr. Perry writes thus of the refectory, "The building on the north side of the cloisters is the refectory, and it is the most important of the remains. It measures about 100 ft. in length by 27 ft. in width, and its height to the starting of the roof is 30 ft. The windows are pierced through a simple continuous arcade, which runs all round the inside of the building. It will be noticed that the capitals and abaci of the north and south sides differ from those at the end, and do not properly accord with the style of the work. These capitals were evidently inserted after the French attack, when the refectory must have been seriously damaged by fire. The windows on the south side have their sills at a higher level than those on the north, an arrangement necessitated by the height of the cloisters below. For two hundred years at least this refectory was used as a barn. Fortunately one of the most interesting features has nevertheless been preserved. The large drawing of the Last Supper at the east end is, I believe, unique in England, and though so much obliterated that it has ceased to be in any way ornamental, it bears most valuable traces of what was once a great work of art."

The next building to which I would call your attention is the gateway. This seems to have suffered considerably from the devastations. The outer portion appears to be partly the original construction. It was prepared for a portcullis, and was internally groined. The inner arch bears character of a later date, and was probably rebuilt without reference to the architectural character of the outer portion. At the time when the College Company became possessors of it, the gateway was in a more ruinous condition than any of the other buildings. But it was restored, and is now used as a library.

The other building which has been preserved, the guest-house, like the refectory and gateway, had fallen into a sad condition. The cottage residence of Mr. Coleman communicated with it by a doorway at the east end. On removing a chimney-stack the window at the east end was disclosed. The pointed arches carried on cylindrical piers with some fine Norman capitals denote its probable date. It was restored principally by private subscriptions under Mr. Hanson, and is now fitted up and used as a chapel to the college.

* From a paper read by Dr. Astley at the Dover Congress of the British Archæological Association.

THE NEW BRIDGE AT PUTNEY.

CONSIDERABLE progress is being made in the preliminary work for the construction of the new bridge across the Thames at Putney, for which Mr. John Waddell is the contractor. The contract work specified in connexion with the new draw-dock has been practically completed. The coffer-dams for the construction of the northern and southern abutments on the Middlesex and Surrey sides of the river respectively have also been completed, as well as the first Middlesex and first Surrey pier coffer-dams. The concreting of the Surrey abutment, and the excavation of the northern abutment, are being actively proceeded with, whilst the demolition of the old aqueduct, and the erection of the temporary staging across the river are simultaneously progressing. The water mains have been removed, and the brick sewer, 4 ft. by 2 ft. 8 in., under the northern approach roadway to the bridge, and the retaining and screen walls to the Fulham Vicarage, are nearly completed. Altogether the total value of the work already executed is estimated at about 22,000*l.*, of which 3,000*l.* represents the progress due to the past month.

STRENGTHENING THE FOUNDATIONS OF WATERLOO BRIDGE PIERS.

MR. WILLIAM WEBSTER, the contractor for strengthening the foundations of the piers of the Waterloo Bridge, is making rapid progress with the work, a large number of artisans and labourers being employed on the undertaking, as well as several pumping and other engines. The works in connexion with four of the piers are complete, namely, the second, third, fourth, and fifth piers from the Surrey end of the bridge. The temporary staging around the first Surrey pier has also been completed, and about two-thirds of the permanent piling has been driven; and the staging around the second pier from the Middlesex side is likewise in progress. The amount of the contract for the whole of the work is 70,000*l.*, towards which work to the value of about 30,000*l.* has already been executed.

Victoria Restaurant, Manchester.—One of the principal features in connexion with the hotel portion of the Victoria Buildings, Manchester (a block which has already cost over 120,000*l.*) is the grand billiard saloon in the basement. This splendid "cellar" has been cut out of the solid rock. The design is of massive proportions, and is rich in ornament and coloured decoration. It was originally intended for a billiard saloon only, but the new proprietor has decided to devote it to restaurant purposes. To meet the new requirement considerable alterations have had to be made, involving an outlay of between 1,000*l.* and 2,000*l.* The works are being carried out by Mr. William Dawes, the architect of the whole building, from whose design the new hotel forming part of the block is being erected at a cost of over 50,000*l.*

DISCOVERY OF A ROMAN HOUSE IN SOMERSETSHIRE.

MR. C. J. ELTON, F.S.A., the recently adopted Conservative Candidate for the Western Division of the County of Somerset, has lately made an important discovery of a fine old Roman villa near his residence at Whitestaunton, Somersetshire. Having been favoured with particulars of the find, a description of the villa will, no doubt, interest many of our readers, especially archæologists. The existence of the ruins of a Roman villa near the residence of Mr. Elton had long been suspected by the owner, owing to the frequent occurrence on the banks of the stream, which also was adjacent to his house, of minute fragments of an ancient kind of pottery, &c. Forty years ago the ruins of a little room or chapel, roofed with slabs, and paved with tesseræ of brick, were found standing over a clear spring in the wood. Last year sandstone pillars, which had supported the flooring over a hot-air chamber, and some of the square boxlike flue-pipes, which had led the warm air through the walls of the dwelling-rooms, were found. Examinations have been made this year, under the direction of Major Davis, who is engaged also in the excavation of the Roman remains at Bath, and the result shows that the house was built under a steep hillside, facing to the south, though the windows looking down the valley westwards must certainly have afforded the finest view. The bath-rooms were arranged round the atrium, or covered court, at the eastern end. The centre of the house was occupied by a furnace-room, which probably adjoined the kitchen, and here were the boilers which supplied the warm bath and steam for the vapour-bath, which was taken in a heated chamber, from which the bathers must have passed into a room containing the cold plunge-bath, lying further to the east. The hot-air room terminated in a semicircular recess, paved with square red tiles, embedded in concrete, several lines of thicker tiles radiating from the centre of the room towards the curve of the recess, where they reached the wall, and formed a support for the *solium*, or bench, where the bathers sat. On the further side of the furnace ran flues or underground passages for hot air, lined with thick tilework, leading to another semicircular room at the back, containing a number of red sandstone blocks, intended apparently to support the fireplace, the doorway, and a seat or projection from the wall, and towards the front to another room adjoining the atrium, where a huge slab of much discoloured sandstone marked the position of another large hearth or fireplace.

THE ENLARGEMENT OF BAKERS' HALL.

CORRIDOR DECORATIONS.

SOME time since a notice appeared in the *Builder* of the extensions then in progress at Baker's Hall, Harp-lane, Great Tower-street. These extensions, including a new approach corridor, have just been completed by the placing of a number of historical panels in the corridor, representing some of the principal events in the history of the company. Each panel is in white marble, set in a carved dado of Portland stone. The cartoons are worked in lead run into the marble. One panel represents the granting of the Charter of the Company by Henry II. His Majesty is represented as sitting on his throne, handing the charter to the first Master of the Company, who is making his obeisance. Adjoining this is the second cartoon, showing the workmen engaged in the construction of the hall. Panel three represents the ceremony of investing a liveryman in his robes, the central figure in the group being the clerk, who has the record in his hand for the newly-admitted baker to sign. An ancient detail of the Company's life is set forth in the next cartoon, their barge on the Thames rowed by six oarsmen, a view of Old London being seen in the background. Active life in the bakery is represented in the fifth panel, and in the next panel the old custom of assaying bread in the Mansion House is shown. Charitable deeds are recorded in the seventh panel, the poor receiving their doles at the gates of the hall. The eighth and last cartoon represents an old mayoral procession, at the moment when the liverymen of the Company are passing. This panel is not yet completed, the figure of the Lord Mayor on horseback being minus his head. It is not intended to finish it until the next Lord Mayor, who is expected to be Mr. Alderman Hedley, and a member of the Company, is duly installed in office. The panel will then be completed by the filling-in of a portrait of the incoming Lord Mayor.

The panels have been executed from the design of Mr. F. Weekes, and carried out under the direction of Mr. J. Clarke and Mr. C. J. Shoppee, architects, Mr. J. E. Lawrence being the contractor.

THE APPROACHES TO THE ROYAL COURTS OF JUSTICE.

THE demolition of the two churches in the Strand,—St. Clement Danes and St. Mary's,—is said to be threatened in connexion with contemplated improvements and approaches to the new Law Courts. It is stated that the Metropolitan Board of Works intend to apply to Parliament next session for powers to carry out certain improvements in the Strand, with more adequate approaches to the new Law Courts. It appears that the Works Committee of the Board have for some time past had the matter under consideration, and have at length resolved upon a plan which involves the pulling down of the two churches of St. Clement Danes and St. Mary's, together with the sweeping away of the whole of the south side of Holywell-street, including also the abutting portion of the north side of the Strand. It is further stated that the plans contemplate the re-erection of the church of St. Clement Danes somewhere in the neighbourhood of Clare Market.

NEW WAREHOUSE BUILDINGS ON THE BRIDEWELL ESTATE.

THE last portion of the vacant land on the Bridewell Estate, off New Bridge-street, has just been covered with a spacious block of new warehouses, erected for Messrs. Spicer Brothers, paper-makers and wholesale stationers. The building has three frontages, one to William-street, 50 ft. in length, another to King Edward-street, 100 ft. long, and a third frontage of equal length to Water-street, the building thus covering an area of about 5,000 ft. In addition to a deep basement, 20 ft. below the ground line, the building contains seven floors, and is carried up to a height of 80 ft. above the pavement level. The ground and first floor elevation of the several frontages is in Portland stone, the upper portions being in white Suffolk brick, with Portland stone strings, windows, and dressings. The top floor has a range of recessed arched windows, with moulded hoods and labels in red pressed brick, imparting a handsome appearance to the respective frontages. The elevation is surmounted by a massive cornice in Portland stone, resting on carved trusses. Internally the building is of a very substantial character. The different floors, having joists 11 in. by 4 in., and 8 in. apart, rest on strong iron columns and girders, which are carried up through the several floors to the top of the building. There are both goods and passenger lifts, as well as approaches to the upper floors by stone staircases, the goods lift extending from the basement to the top of the building, and the passenger lift to the second floor. In the William-street frontage there are five cranes for hoisting purposes. The building contains an aggregate floor area of nearly 40,000 ft., or little short of an acre in extent.

The architect is Mr. Roberts, of Broad-street, City; and Mr. George Shaw, of Westminster, is the contractor. Mr. Wright is clerk of the works, and Mr. Stockwell the foreman. The estimated cost of the building is about 25,000*l.*

The Manchester Ship Canal Project.—Most of our readers are aware, as to this scheme, that on coming before a committee of the House of Lords, it has been practically rejected, after an inquiry which extended over ten weeks. In the whole, fifty days altogether have been occupied in an inquiry which has for the present been fruitless, after about 120 witnesses have been examined in connexion with it, and which it is confidently stated has cost more than 100,000*l.* It is said that the prosecution of the Bill has cost the promoters alone upwards of 65,000*l.*

A NEW HOSPITAL FOR PLYMOUTH.

IN a few months' time Plymouth will be in possession of one of the finest hospitals in the provinces. A fine hospital, known as the South Devon, has been used for many years, but it has become inconvenient and small for the requirements made upon it, and a new hospital is being erected to take its place. The new building is being erected in Clifton-place, and will be opened with a grand ceremony. The men's ward is in a very forward state, it being very nearly finished internally. The women's ward is also now being plastered, but this part of the work at its commencement was got on with very slowly, and was the occasion of some discussions in committee. The ornamental tower in the centre block has been got up, and the nurses' institute on the other side is well advanced. All the buildings are slated in, with the exception of the centre block and the nurses' institute. It has recently been determined by the committee to add another story to the accident ward. This was very much pressed upon the committee by Sir Massey Lopes, at the annual meeting, as without it there would be no spare ward in any case of emergency. About 45 ft. more ground has also been acquired to the southward, and the arrangement of that part of the site has been slightly altered. Instead of the main entrance to the hospital being somewhere near the centre of the new road at the bottom of the site, it will now be at the corner of the new road and Woodland-terrace. The design for the gates and the ornamental iron rails on each side is very good, and at the entrance will be a neat one-story lodge for the porter. In the left-hand corner from the entrance it has been determined to erect some necessary buildings in connexion with the hospital. They comprise a mortuary, a dissecting-room, and a carriage-shed to accommodate three carriages. The gas and water pipes, heating apparatus, and lifts are for the most part in the building. Messrs. Coe & Robinson, of 4, Furnival's Inn, London, were the architects; but a few months ago Mr. Robinson, who had had almost exclusively to do with the building, died. Mr. Coe remains the architect, and Mr. Jonathan Marshall is the contractor.

ADDITIONS TO MESSRS. ROTHSCHILD'S OFFICES.

THE Doric quadrangular block of buildings in St. Swithin's-lane, forming the offices of Messrs. Rothschild & Sons, the great financiers, is perhaps one of the finest commercial establishments, architecturally, in the City. Important additions are at present being made to the buildings. At the rear of the western portion of the quadrangle, in the direction of St. Stephen's Church, Walbrook, the offices are being extended by the erection of two additional stories, uniform in height and architectural elevation with the north and south wings. The extension will provide several additional office and other apartments, together with a gallery carried round the western boundary of the premises. Messrs. Cubitt & Sons are the contractors.

PONTEFRACT OLD CHURCH.

IT is intended to remove the western ruins of the Church of All Saints, Pontefract, for the purpose of extending the present church. Mention is made of the old church in the first charter granted before 1100 to the Priory of St. John, by Robert de Lacey. No trace remains of the church then erected, though it is quite possible that some of the old work may be concealed in the *débris* which raises the level of the church and churchyard about 3 ft. The old church consisted of a chancel and large south chapel, a central tower, two transepts (that on the north had an eastern aisle) a nave with aisles, and a north and a south porch, belonging, it is believed, to the latter half of the fourteenth century.

The old church was much injured during the earlier sieges of the Civil War. On March 6, 1647, the Lords sent to the Commons the draft of an order "for re-edifying" the structure in consequence of damage by siege, but nothing appears to have been done. Parliament has, however, granted money for its repair, notably after the third siege, when it was reduced to a great ruin. The feeling in Pontefract is in favour of retaining the remains in the work of restoration.

BRANDER LIBRARY, HUNTLY.

THIS building is designed to provide a library 53 ft. by 24; ladies' reading and class-rooms, 20 ft. by 16 ft.; gentlemen's reading-room, 21 ft. by 18 ft., and class-room, 24 ft. by 18 ft.; rooms for caretaker, &c. The building is the gift of Mr. Brander, Crock Hill, to his native town of Huntly.

In answer to an invitation to architects through the newspapers in February to compete, twenty-eight designs were submitted to the local authority in Huntly, entrusted by Mr. Brander with the carrying out of his munificent bequest. All the plans were sent to Mr. Weymouth, of Moorgate-street, London, to adjudicate upon them as referee, and he selected the design by J. & J. R. Rhind, of Elgin. The work has been contracted for, and is now in progress.

The masonry of the principal elevations is of square dressed grey granite, having dressings of red freestone, which gives an agreeable variety and contrast to the external appearance of the structure.

The contractors are Alexander & MacDonald, builders, Inverness; Roland & Spence, carpenters, Keith; Alex. Barclay, slater; John Loggie, plasterer; James Bowman, plumber, and Theo. Gerrard, for ironwork, all of Huntly.

UNION ASSURANCE BRANCH OFFICES, BERLIN.

THE Union Assurance Society of London, which has long had a considerable Life business in Germany and Switzerland, has arranged to erect new offices in Berlin in place of those it at present occupies, and has purchased for that purpose a valuable site at the corner of the Wilhelmstrasse and Zimmerstrasse. The position is one of the most commanding in the city, as not only is the Wilhelmstrasse a very important street, in which are the palaces of Prince Bismark, Herr Pringsheim, the English Embassy, the Architects Verein, &c., but the proposed continuation of the Zimmerstrasse,—described in a recent number of the *Builder*,—through the War Minister's grounds, will make that the principal direct communication between the east and west ends of Berlin. The whole of the Wilhelmstrasse is being rapidly rebuilt, but the older buildings which remain were mainly erected in the early part of the last century, and not a few by the rough-and-ready method adopted by Frederick Wilhelm to get his city rebuilt, as described by Carlyle.

The new building, of which we give an illustration this week, will consist of offices on the ground-floor only, the basement and the several floors above being let off in flats for private occupation. The only entrance will be from the angle of the building, with doors right and left of the vestibule leading to the offices, and a central doorway giving access to the main staircase lighted from a courtyard in the rear of the building. The style selected is a phase of German Renaissance answering to our own "Queen Anne," as not only is this being successfully revived in many of the semi-public buildings now being erected in Berlin, but it was during the reign of Queen Anne that the Union Office was established.

When it was first decided to build the new offices, it was intended that a Berlin architect should be employed to carry out the works; but some of the peculiarities of German practice rendered this arrangement difficult, and, finally, the society determined to employ their London architects to design and generally superintend the work in conjunction with a local architect, who could more particularly superintend the execution. One difficulty was to find an architect in practice who was not also a contractor, or a designer in the employ of a contractor, and in a position to be an independent adviser and act fairly between client and builder. Contractors as well as architects are members of the Architects Verein, and the large proportion of the new buildings,—apart from Government buildings,—in Berlin are erected by builders who also act as architects. Those who do, however, act as *bonâ fide* architects do their work more completely than their English *confrères*, as they prepare the bills of quantities, either themselves or in their own offices. The amount of the architects' fees, and the mode of paying them, also differs from ours, and is more satisfactory for the profession. Too often in England the architect is the last person to be paid by the employer; and if the final certificate be one not altogether satisfactory to the client, the amount of it is frequently made an excuse for postponing the settlement with the architect. In Berlin, where the average charge is 7 per cent., including "quantities," about one-fourth is paid on the signing of the contract, one half in monthly instalments during the progress of the works, and the balance on the issue of the final certificate.

The new building, as illustrated, has been designed by Messrs. Perry & Reed, Surveyors to the Union Assurance Office, of John-street, Adelphi, who are associated in the superintendence of the works with Herr Lange, a certificated architect, late of Breslau, and now carrying out some important Government works at Berlin and Tempelhof.

HUMPHREYS' HALL MANSIONS, AND HUMPHREYS' HALL, HYDE PARK.

WE publish in our present number an illustration of Humphreys' Hall Mansions. Humphreys' Hall has already established a reputation as a place of exhibition of special objects, and as an assembly-room on important public occasions. The Food Exhibition was held here last autumn, and also several successful bazaars during the winter. The great banquet and demonstration of welcome to the Life Guards on their return from the Egyptian campaign took place here, on the 25th October, 1882, when covers were laid for 1,000 guests. Although so spacious, it is not considered equal to the accommodation of the various societies which seek to hold exhibitions there. It is therefore anticipated so to extend the hall as to more than double its size. The additional part will be available for use either as a separate place of assembly, or in combination with the present hall, to form one grand apartment. If required, the whole area can be divided into three separate halls. There are shops under the mansions which communicate with, and are on the same level as the halls, making the total available area for exhibitors on the floor level 25,000 ft. The existing hall is very open, light, and exceedingly well ventilated. It is floored with a fine solid white marble pavement in large squares. The new halls will be carried out in an equally substantial manner, and will be fitted with hydrants and every appliance for safety in case of fire. Suitable business offices will be provided in the new buildings for the use of committees of future exhibitions.

Humphreys' Hall Mansions, now in course of erection, are a large block of buildings in front of the halls, facing the High-road, Knightsbridge. They have a frontage of 111 ft., and will contain a noble suite of rooms, for high-class residences in flats, which are greatly needed in this neighbourhood. The ground story will be occupied by shops, most of which are already let at high rentals. Between the shops are three entrances to the halls, two of which are 8 ft. wide, and the centre one 12 ft. They give easy access to the halls by means of inclines and short flights of steps.

The mansions will be approached by a spacious stone staircase in the centre of the building. There will be a large number of rooms available for residence, besides which, all the shops are provided with retiring-rooms on a mezzanine floor. The floors will be fireproof throughout, and proper hydrants and buckets will be supplied on each landing, and the whole work will be of the most substantial character. The ground-story facing the park is built of Portland stone; in the first floor there are oriel windows and projecting balconies in the same material. The upper portion is chiefly built of fine cut, rubbed and gauged brickwork. There will be passenger-lifts for the residents, a coal-lift and service-lift from the restaurant in the basement floor, and every other convenience necessary for the comfort of residents and their visitors.

On the top floor will be a spacious reception-room, about 48 ft. by 40 ft., for the use of residents, or for hire by societies, or as a first-class club or meeting room.

The sanitary arrangements will contain all the latest improvements. Mr. J. Charlton Humphreys, the spirited owner of this valuable property, has a wide reputation for his excellent iron buildings, samples of which are always exhibited on the grounds adjoining the halls. Mr. Humphreys purchased the property out of bankruptcy, and when the works now in progress are completed he will have laid out upwards of 50,000*l*.

We should mention how conveniently situated the mansions will be with regard to Hyde Park. If, as it is probable, the new entrance is made near the Riding School, as mentioned by Lord Fortescue in the House, their situation in this respect will be even better than it is.

A frontage of about 30 ft. of the mansions is now completed. It is expected that the whole of the works will be finished early in 1884. The carving is being executed by Mr. Seale, of Walworth. The whole of the closets, sanitary fittings, and plumber's materials, have been supplied by John Bolding & Sons, of South Molton-street. Mr. Richard John Boon is acting as Mr. Humphreys' building manager. The architects are Messrs. Romaine-Walker & Tanner, of 19, Buckingham-street, Adelphi.

CHURCH OF ST. MATTHEW, KEMP TOWN, BRIGHTON.

THE new Church of St. Matthew is designed to meet the spiritual wants of a large and growing district, northward of the College grounds, and contiguous to the Kemp Town Station. The site is at the corner of Sutherland-road and Gordon-terrace. The contract was taken by Mr. John T. Chappell in 1881 for 10,007*l*., and the partially completed building will be cosecrated on St. Matthew's Day (Sept. 23).

The roadway being raised some 10 ft. above the natural level, concrete foundations have been brought up, and advantage has been taken to utilise the space under the chancel as a playground for the children of the Church schools to be built in Canning-street, on the north side, and from which a bridge will communicate with the north chancel chapel, to be appropriated entirely for their use. The ground-plan of the church is a simple parallelogram, 100 ft. by 73 ft., comprising nave, 70 ft. by 36 ft., north and south aisles, 66 ft. by 16 ft., chancel, 30 ft. by 36 ft., north chancel chapel, 27 ft. by 16 ft., south ditto and vestry, 27 ft. by 13 ft.

The tower at the south-west angle forms an entrance porch, in addition to the double portals at the west end of the nave. The walls are unusually massive, built of beach shingle and Portland cement concrete, faced externally with snapped flint, and internally with red Burgess Hill bricks. The lofty arcade arches are of red moulded brick, supported on circular columns of Doulting stone, each banded with four shafts of red Corsehill stone. The stonework of the windows, doorways, and dressings generally is from Mr. Trask's quarries at Doulting.

The roofs are open-timbered throughout; the ridges of the nave and chancel roofs are continuous, that of the nave open to the ridge, whilst that of the chancel is panelled to a trefoil form. Externally the roofs are covered with pale green German slates laid on boarding and felting.

The pulpit projects from a low stone chancel screen, and is worked (by Bennett, of Lewes-road,) in Monk's Park stone, Devon marble, mosaic, and brass inlay, and was erected by members of the congregation of St. George's Church as a memorial to the vicar, the Rev. J. R. Rogers.

The font (by Davison, of London,) is embellished with ceramic mosaic work panels and risers, and was presented by Mrs. Masterman.

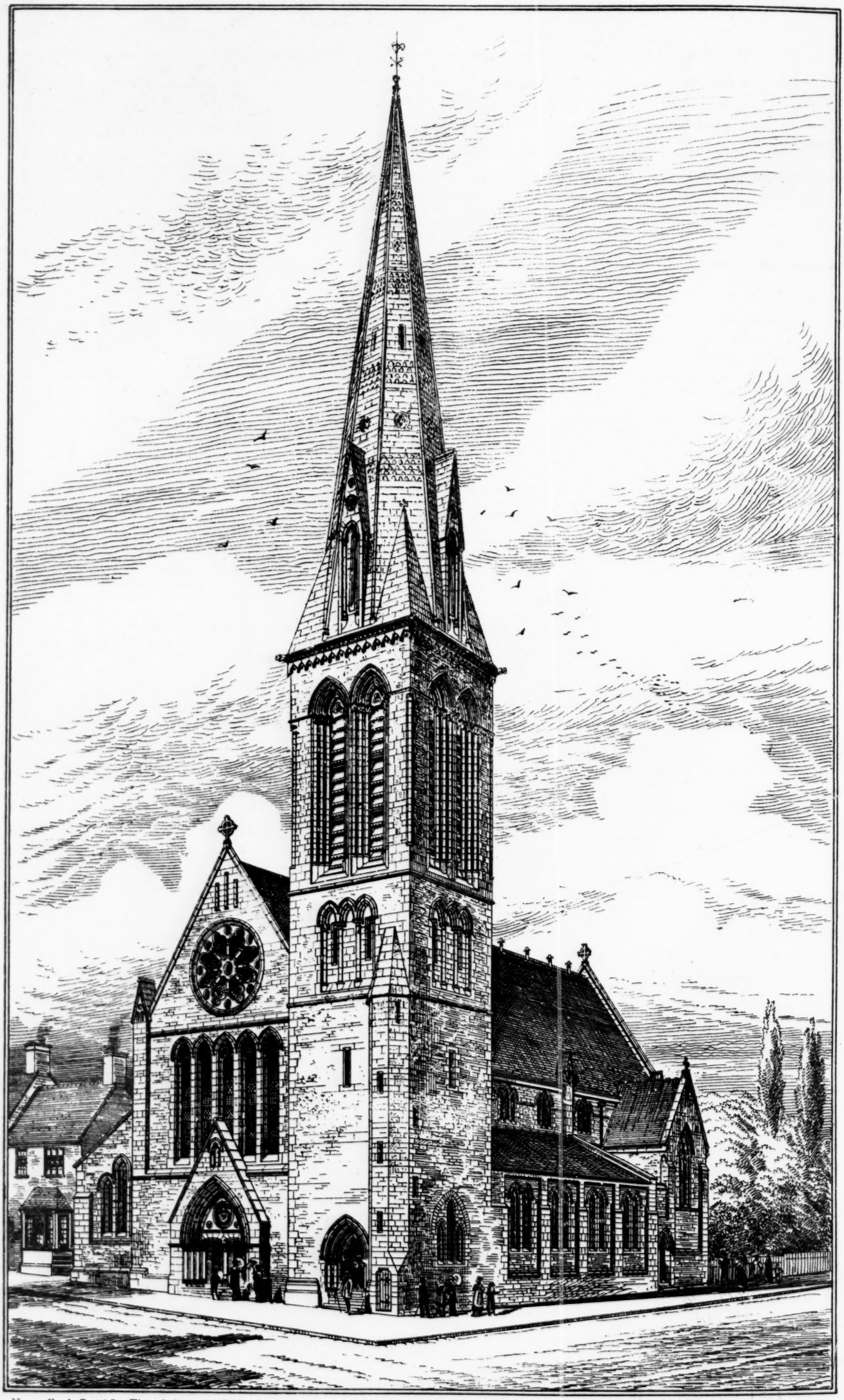
The organ (by Harper, of Brighton,) projects from a chamber over the vestry on the south side of the choir, and was the gift of Mr. Charlsley. The heating is upon Grundy's system, and the lighting by gas,—the fittings by Hart, of London.

The tower will be roofed in a temporary manner at a height of 73 ft., but will eventually be surmounted by a spire 190 ft. high. The height to the apex of the nave roof is 73 ft., and to the apex of the chancel roof 83 ft.

The accommodation will be for 1,200 when the edifice is quite complete. The works still remaining to be done are tower and spire, children's gallery, reredos, and external and internal carving.

The architect is Mr. Norton, of Old Bond-street.

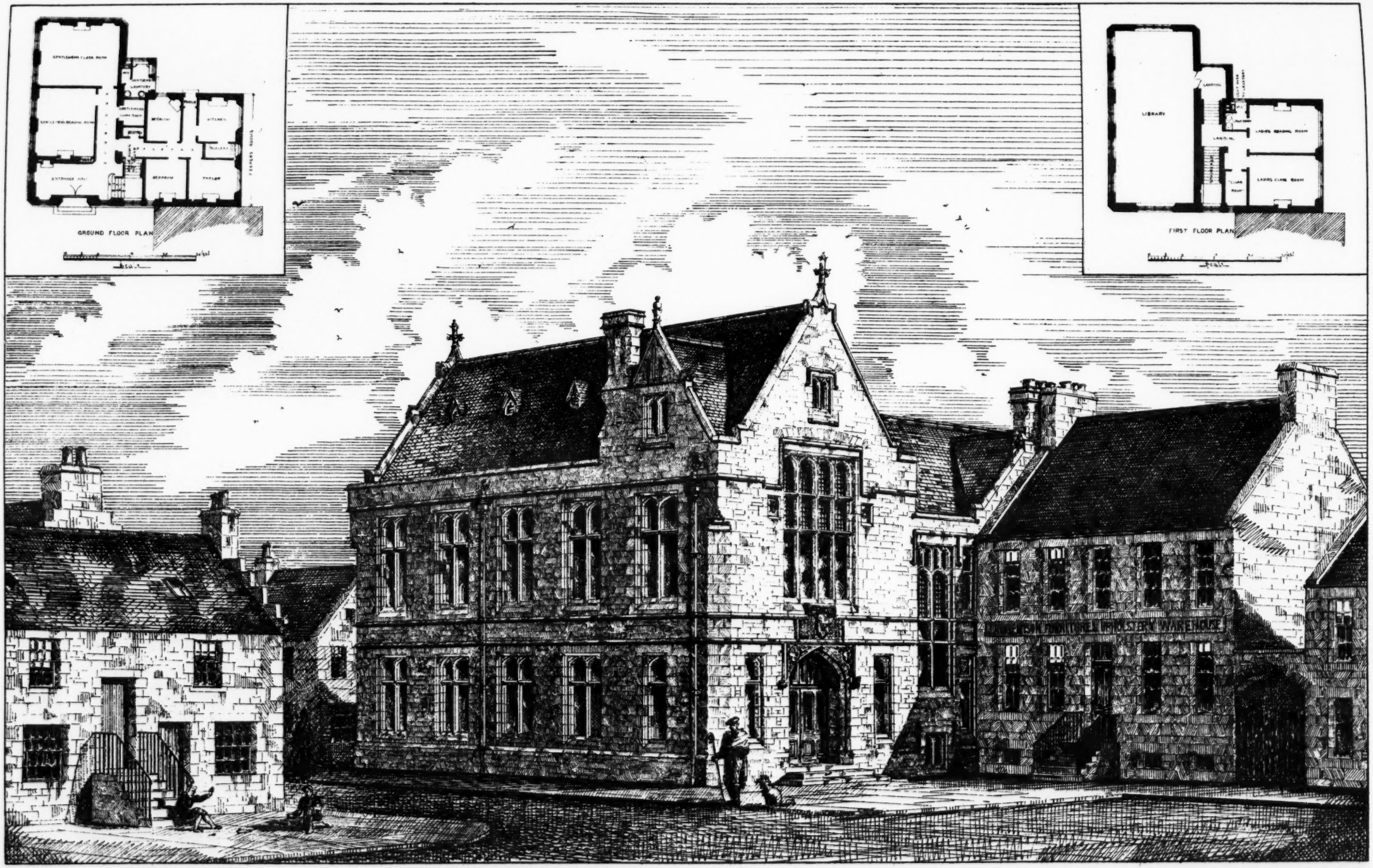
Pavement.—The wood pavement in the roadway of New Oxford-street is being taken up and the compressed rock asphalte of the Val de Travers substituted.



Vincent Brooks, Day & Son, Photo-Litho., London W.C.

CHURCH OF ST. MATTHEW, KEMP TOWN, BRIGHTON.

MR. JOHN NORTON, ARCHITECT.



Vincent Brooks, Day & Son. Photo-Litho: London, W.C.

BRANDER LIBRARY, HUNTLY, SCOTLAND.

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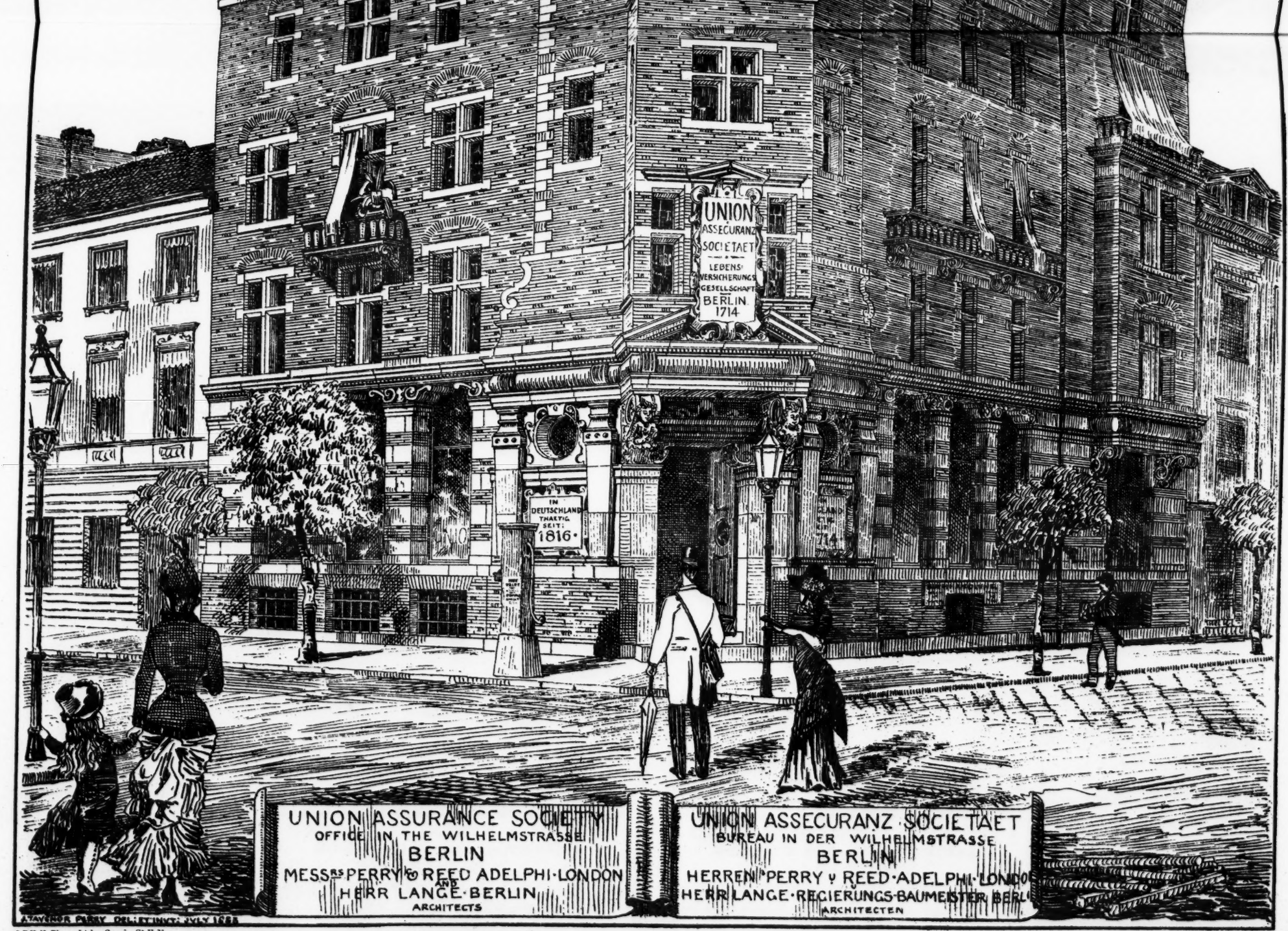

C.F.Kell, Photo-Litho. Castle St Holborn.

Wyman & Sons' Printers, Gt Queen St.

Humphreys Hall Mansions

— and —

Humphreys' Hall

Hyde Park

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Romaine-Walker & Tanner
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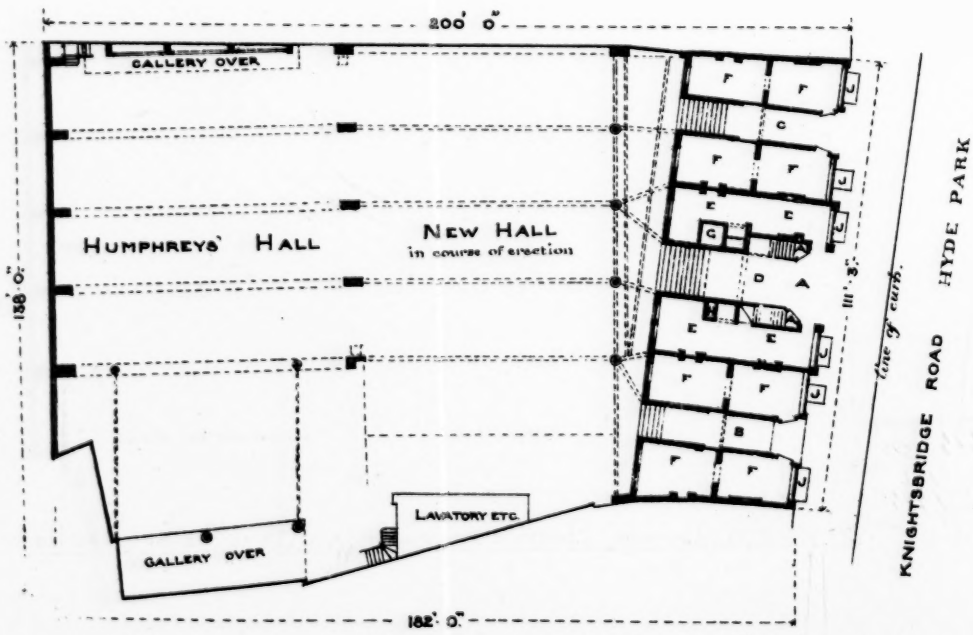
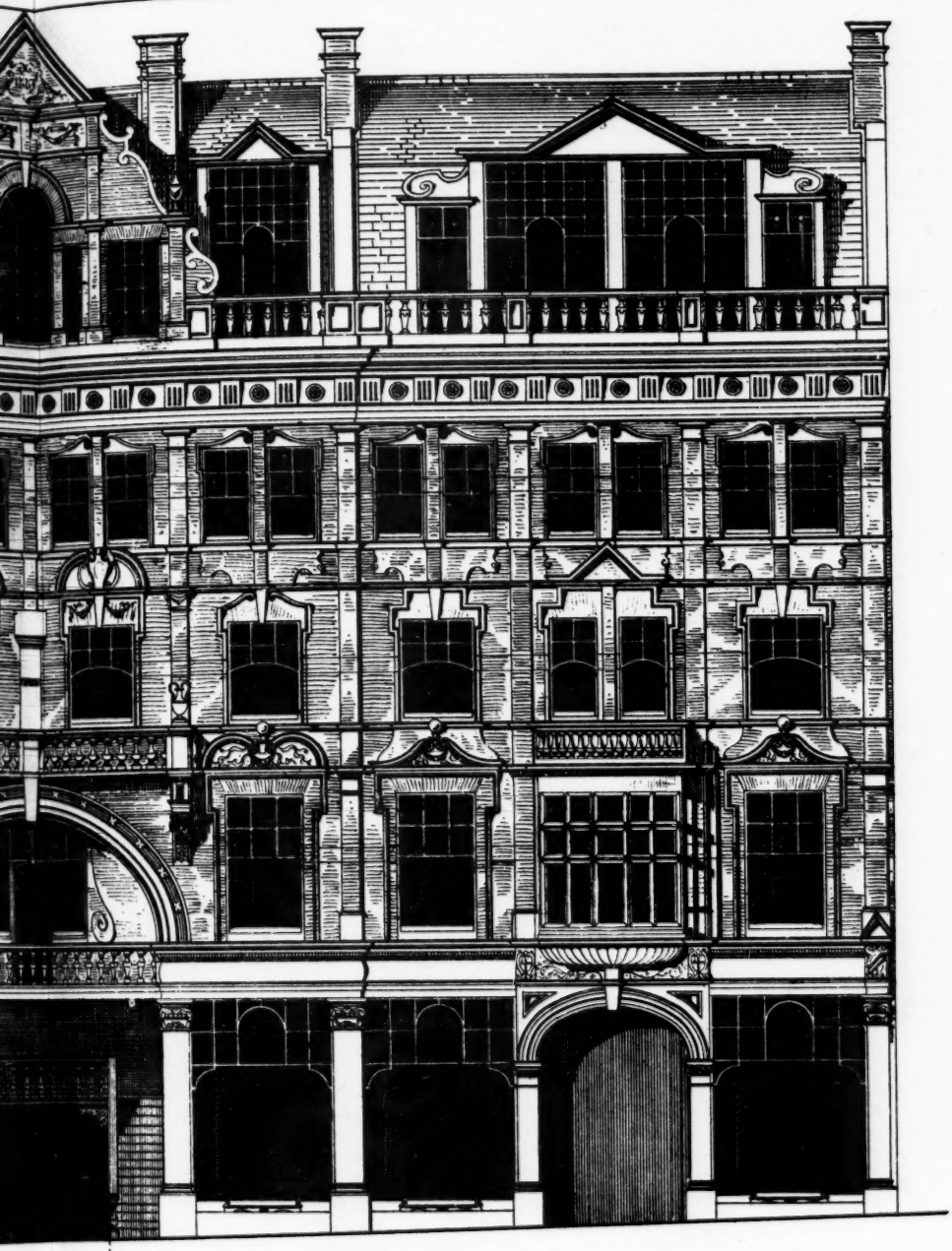
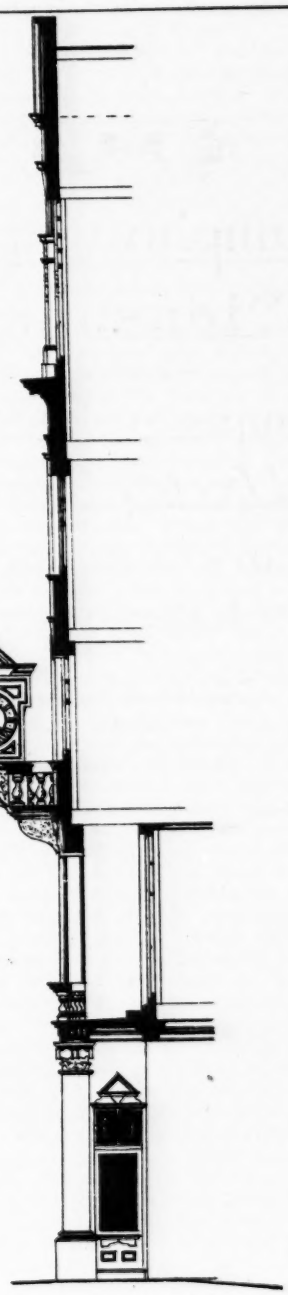


Ground Plan.

Vincent Brooks, Day & Son, Photo-Litho, London W.C.





Hall Mansions.

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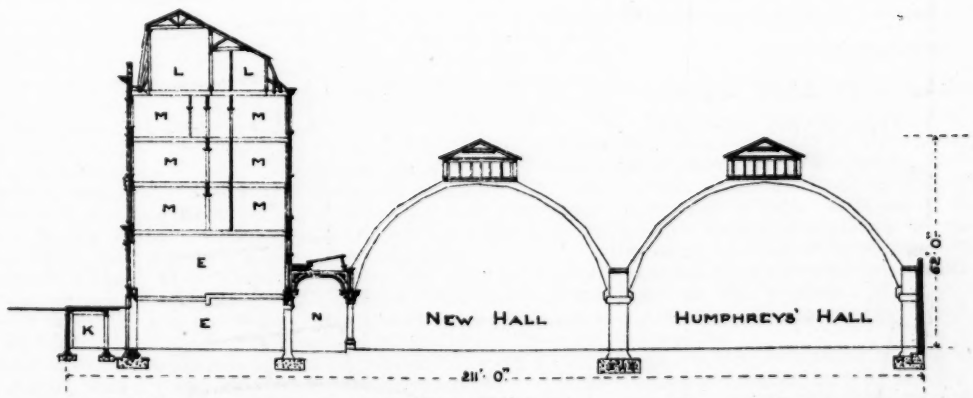
Section.



Section through Mansions connects Arcade and Halls.

PROGRESS OF THE VYRNWY WATER-WORKS FOR LIVERPOOL.

THE second annual report as to the progress of the new works at Vyrnwy up to the 30th of June last has been issued. As to the works at the site of the intended Lake Vyrnwy, the report says:—The embankment now being constructed across the valley of the Vyrnwy will impound the upper waters of the river, and will form a lake, having an area of 1,115 acres, at an elevation of 825 ft. above the mean sea level. The length of the embankment from rock to rock will be about 1,255 ft.; its height above the original river bed to the ordinary top water level about 84 ft., and to the parapet of the roadway to be carried on arches along the embankment about 98 ft. It is being formed of rubble masonry set in Portland cement mortar, founded upon sound rock of the Caradoc beds in the lower Silurian formation. This rock extends across the valley and up both sides thereof. The greatest depth of its surface below the river bed, within the area to be built upon, is 60 ft.; so that the total height of the masonry above the lowest part of its rock foundation will be about 158 ft. Before the works were commenced the rock in that part of the valley across which the masonry embankment is being constructed was covered with glacial drift, containing boulders of several tons weight, and blocks of rock of forty or fifty tons dislodged by glacial action. Above this drift lay an alluvial deposit, the result of silting up by the rock *débris* and detritus brought down by the many streams which feed the present river. In times of heavy rain this river flooded the whole width of the valley, and it was, therefore, desirable before commencing the present excavations to divert it from the left bank of the valley, where the rock is at a considerable depth below the surface, to the right bank, where it is close to the surface, and to make the new channel of sufficient capacity to pass the highest floods. This work had been completed when the memorial stone was laid on the 14th of July, 1881. The excavation to the rock then proceeded rapidly, and on the 25th of October, 1882, the masonry was commenced on the deepest part of the rock between cross sections 10 and 11. About 11,000 cubic yards have since been built. During the past winter but little work was done, and the progress must necessarily be slow until the autumn of this year, when it is hoped that the deeper hollows in the natural rock will have been filled up. The stone used is of much the same nature as that forming the foundation, and is being quarried in the Cynon valley, at a point about a mile and a quarter distant from the site of the embankment. It is brought to the embankment upon a tramway worked by locomotives. The formation of the statutory roads which will skirt the lake is progressing satisfactorily. About 5,137 lineal yards have been completed, and a further length of 5,089 lineal yards is nearly formed. The construction of the bridge to carry the road on the south-west side over the Afon Hirddydd has been commenced.

The aqueduct from the intended Lake Vyrnwy to the present Prescot reservoirs of the Corporation has a length of 67½ miles. It consists of three tunnels, through which the whole expected yield of the works may be passed without pipes, and of three lines of parallel pipes, only one of which, with a few short exceptions, will be constructed at present. The discharging power of each line of pipes will not be less than 13,000,000 gallons per day. The Hirnant tunnel, 2 miles 473 yards in length, is being constructed from the intended lake to the Hirnant valley. It will form the first part of the aqueduct. The inlet end was driven and timbered by Corporation men through earth and loose rock to moderately sound rock for a length of 128½ lineal yards. The outlet end was similarly driven and timbered for a length of 267 yards, and was lined with concrete and brickwork. For the driving and, where necessary, the lining of the intermediate portion, 3,597½ yards in length, a contract is being carried out by Messrs. J. W. & M. H. Larmuth, of Manchester. This work is being done by blasting, and the shot holes are drilled with machines worked by compressed air. The total length of the tunnel now driven, but not completed, is 1,275½ yards. From the outlet end of the Hirnant tunnel to the intended Parc Uchaf relieving tank the length of pipe line is 7 miles 177 yards. This portion of the aqueduct has, with the exception of certain special works, been completed. From the Parc Uchaf relieving tank to the inlet end of the Cynynion tunnel the length of pipe-line is 6 miles 283 yards, and has, with the exception of certain special works, been completed. The length of the Cynynion tunnel will be 1,515 yards. For the driving and, where necessary, the lining also, a contract (No. 9) has been entered into with Messrs. Gabbutt & Owen, contractors, of Liverpool, who have now driven, but not completed, about 683 lineal yards. Between the outlet of the Cynynion tunnel and the inlet of the Llanforda tunnel, a distance of 165 yards, lies the Morda Valley, which will be crossed by inverted syphon pipes, carried over the river by a small masonry aqueduct. The length of the Llanforda Tunnel will be 1,614 yards, of which 390 yards have been driven, but not completed. The work is being done under the same contract as the Cynynion tunnel. The balancing reservoir at Oswestry and the filter beds for the whole of the water will be situated near the outlet of the Llanforda tunnel. From the Oswestry filter-beds to Malpas the distance is about 17½ miles. Contracts (Nos. 2 and 14) for the supply and delivery of the pipes have been entered into with Messrs. Cochrane & Co., of Dudley, and contracts (Nos. 17 and 19) for the pipe-laying have been entered into with Messrs. Fotherby & Son, contractors, of Burnley, and Messrs. Jowett & Dyson, contractors, of Brighouse. About 4 miles 1,486 yards of pipe-line have been laid. From the Malpas tank to the Cotebrook tank, a length of about 11 miles 1,033 yards, the construction will be generally similar to that of the last length. No contracts have yet been entered into, or works executed in connexion with it. From the Cotebrook tank to the Norton water tower, a length of about 10 miles 1,720 yards, the construction,—except beneath the river Weaver,—will be generally similar to that of the two last lengths. A contract (No. 6) for the supply and delivery of the ordinary pipes, has been entered into with the Widnes Foundry Company, and another (No. 13) for the pipe-laying with Mr. Joseph Walker, contractor, Crewe. About 4 miles 699 yards of pipe-line have been laid. From the Norton water tower to the existing Prescot reservoirs, a length of about 9 miles 475 yards, the construction, except beneath the river Mersey, will be generally similar to that of the last three lengths. A contract (No. 3) for the supply of the ordinary pipes has been entered into with Messrs. D. Y. Stewart & Co., of Glasgow, and another (No. 5) for the pipe-laying with Mr. John Jowett, contractor, of Brighouse. About 6 miles 1,220 yards of pipe-line have been laid.

WILTS ARCHÆOLOGICAL SOCIETY.

THE annual meetings and excursions of the Wiltshire Archæological and Natural History Society were held at Andover this year. The annual meeting was held in the Town Hall, on the 15th ult., when Mr. Story-Maskelyne, M.P., was unanimously selected to succeed Lord Edmond Fitzmaurice, M.P., as president of the society.

The report showed that thirteen members had been lost during the past year, but eleven others had been secured, leaving the number of members now at 370. There was a balance in hand of 35*l*. 15s. 10d., being an increase of 12*l*. 14s. 5d. on the year. The projected railway schemes that had been before the public were referred to, and the timely interference of the president, Mr. Story-Maskelyne, in Parliament, in respect to Stonehenge and Vespasian's Camp, was acknowledged.

The President delivered an exhaustive address on "Flint." On the motion of the Rev. Canon Jackson, seconded by Mr. Buxton, M.P., the president was warmly thanked for his inaugural address, and he was requested to allow it to be printed in the society's magazine.

The Vicar of Andover, the Rev. G. Collier, followed with a paper upon "Andover and the Neighbourhood," in which was embodied a large amount of historical information. The rev. gentleman having been thanked for his paper,

The Rev. R. H. Clutterbuck gave a lucid description of the articles contained in the town museum, and the company then rambled through the town, inspecting the various objects of interest, the parish church being particularly admired. Later on the anniversary dinner was held at the Star and Garter Hotel, followed by a *conversazione* in the Town-hall, when a paper was read by the Rev. W. H. Awdry on "Ludgershall Castle and its History," and one by the Rev. Canon Jackson, on "Notes on the Borders of Wilts and Hants."

On the 16th ult. many of the members assembled at the Town-hall for the purpose of making excursions to the various places of interest arranged for that day, and shortly after nine about forty left in three large brakes from the Star Hotel for Penton. Here they were met by the Rev. W. H. Simcox, of Weyhill, who showed them over the church, pointing out the various objects of interest to archæologists, but the centre of attraction appeared to be a window of the fourteenth century, and the bell turret, both of which were declared to be unique in their way, the latter especially being of great rarity. The party then went on to Weyhill, where the church also excited much interest. From thence the next move was made to Ludgershall, where the Rev. W. H. Awdry, who acted as guide, showed traces of the outer and inner circles of the ancient fortress, while he pointed out that in the remains of the building there were traces of Roman work. Next he proceeded to the well mentioned in his paper, and which he said was about 110 ft. deep. Proceeding through the extent of the encampment, the party reached the old cross, and it appears this ancient relic once had a narrow escape of being used as building material. Some thirty years ago it was taken down, and a resident in the place was using the stones forming the base of it as the foundation stones of a house opposite, when a stranger passing called attention to what he was doing, and the then curate prevented the spoliation going on, replacing the old base with bricks. From the cross Mr. Awdry conducted the visitors to the sites of the old banqueting hall, the bowling green, and the "Cursed Plot," as one portion of the castle was called, after which the party proceeded to the church. A start was subsequently made for South Tedworth Church, which was declared to have been restored in the most perfect manner. From this church the visitors went to that in Tedworth Park, and afterwards wended their way to Tedworth House, to which they had been invited by Sir John Kelk. There they were met at the door by Sir John, who conducted them through the picture gallery, the library, and other rooms, explaining in a pleasant manner the various art objects specially worthy of attention. This inspection afforded the utmost gratification to the visitors, who, at its conclusion, were entertained at luncheon by Sir John. On the way back a visit was paid to Thruxton Church, where the brasses let into the floor in memory of a member of the Lyle family, some pieces of armour, the tomb of the Lyles, and some Italian sculpture, in a wonderful state of preservation, were exhibited by the Rev. H. D. Baker. It was then so late it was decided to omit the intended visits to Abbots Ann Church and Bury Hill, and the company kept on their way to Andover, which was reached shortly before eight o'clock, a pleasant day having been spent. In the evening a second conversazione was held in the Town Hall; the chair was again occupied by the president of the society. Interesting papers were read by the Rev. R. H. Clutterbuck and Mr. W. W. Ravenhill. It was reported that the secretaries, having raised by subscriptions 380*l*. in the county, had secured the antiquities of the Stourhead collection, besides 135*l*. for books specially relating to Wiltshire.

MOSAIC WORK AT AIX-LES-BAINS.

THE Committee of the Casino at Aix-les-Bains have exhibited to the public a fine piece of mosaic work executed by Dr. Salviati of Venice, viz., the decoration of the large cupola in the Grand Hall. It is one of the most extensive mosaic decorations of modern times, covering an area of 3,500 square feet. The work has been executed under the superintendence of the architect, M. A. Bondier, after a cartoon by M. Lameire, in the short time of six months.

The ceiling is divided into a large central cupola, surrounded by four smaller ones below it. The subjects represent symbolical signs of the Zodiac and of the Four Seasons, and the details of each subject are plainly visible without interfering in the least with the elaborate ground which they seem to be placed over. Upon the shield which each figure holds are written the names of the architect, painter, and

mosaicist. The four elements are represented in the four small cupolas by boys mounted on various symbolical animals. Different shades of gold and many new tints, representing various precious stones, are introduced, giving to the *tout ensemble* an effect which is compared to a graceful work of lace intercepted with gold and gems.

Dr. Salviati declares that he has never had such a favourable opportunity of making such a display of all the resources of the mosaic art.

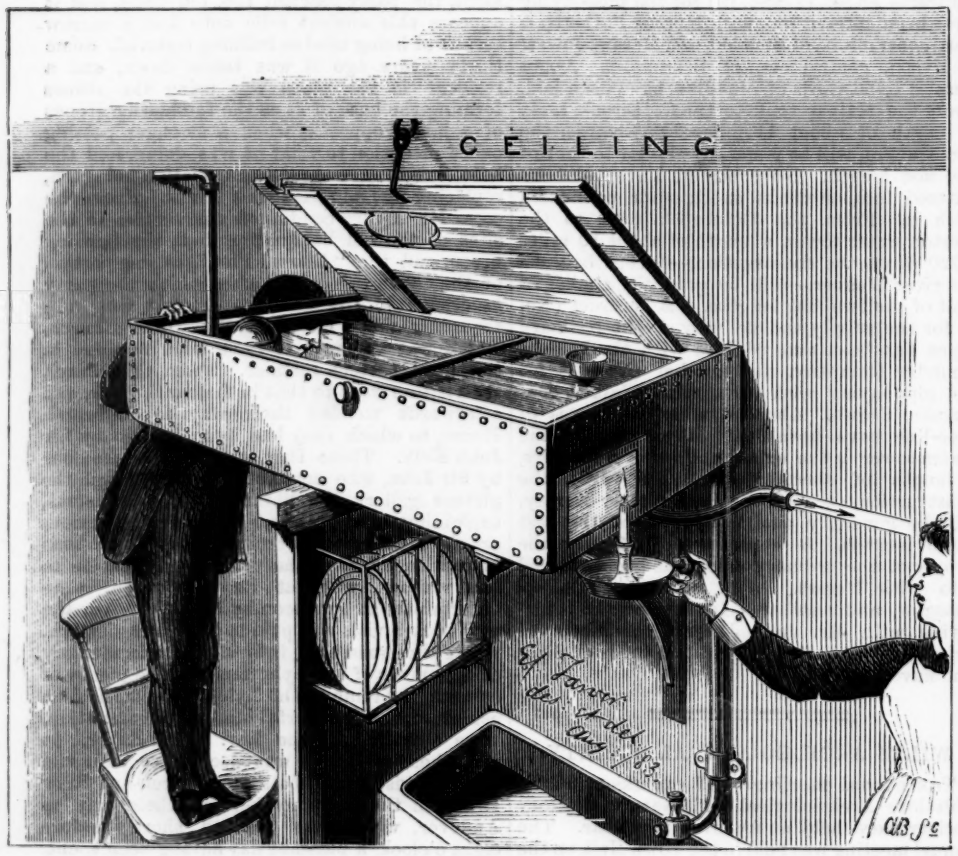
CISTERNS AND CLOSETS.

SIR,—It has always appeared to me that there is no place in a house too good for the cistern. For the upper cisterns it is generally possible to contrive a position both easy of access and well lighted. This is not quite so easy of accomplishment for what is known as the "scullery cistern," the most important of all, as it usually supplies the drinking and cooking water. It has, for obvious reasons, to be placed near the ceiling, and there is consequently a difficulty in getting a good light to shine down into it. In order to meet this difficulty, I have arranged to introduce sheets of plate glass in the walls of the cistern. The best position for these sheets is at the opposite corners of each end, so that the light reaches the whole of each side; and if the cistern can be placed in a line with a window, so much the better. When that is impossible a lighted candle can be held to the glass. Every portion of the interior is thus exposed to view, and by employing convex glasses the impurities will be magnified, and be thus more easily detected.

In a slate cistern it is simple enough to provide fixing for the glass in rebates or grooves; and for galvanised iron cisterns, a manufacturer will provide the fixing at a cost of 2s. 6d. for each opening, so it is not an expensive matter.

Another sanitary object that should be much easier of access than at present is the water-closet pan. Most of us have, doubtless, contrived seats and risers made to open and disclose the apparatus, and there is a great improvement on this in the closet in use at the Parkes Museum, where the riser is entirely omitted, and the space under the seat has the walls lined with nice clean tiles. I propose to go further and to expose the pan to the fullest extent. The seat can rest either upon skeleton framing, secured from ricketing by bolts, which, when drawn, will allow of this frame being lifted bodily away; or the seat can rest upon bearers fixed against the side-walls and, being hinged and thrown back, reveal everything. An upper flap may be considered necessary; but it has no practical use, except to form a back to lean against. Under these circumstances, it is right to make the outside of the earthenware pan fairly ornamental. [No object that has any use is unworthy of being treated æsthetically,—a term that has lately been much misused and abused; for example, the old cast-lead cisterns of which so many beautiful examples exist. There is one in this house (10, Craig's-court), dated 1705, with a geometrical pattern cast upon it, including the figures of St. Martin dividing his coat with the beggar.] Acting upon this principle, I have contrived a Doulton-ware pedestal to support a flush-out closet pan, and thus to render its external appearance sightly. It is a mistake, however, to ornament the inside of the pan, which, for obvious reasons, should be plain white.

The "water-waste preventer" is usually a noisy concern, which also requires consideration. Noiseless ones are made at extra cost; but there is the possibility of fixing an ordinary one at a little distance from the closet, with intervening ceilings, in order to drown the noise. Even granting the noise, however, what a comfort it is to be quit of the complicated apparatus connected with a pull-up handle!



All that is needed is a lead supply-pipe brought into the top of the pan, and it should be exposed to view. Here, again, is a chance of ornamenting the useful. A hint may be taken from some lead rain-water pipes at Llanelly, which are decorated with cast ornament that vies in effect with Early English carving.

We are gradually demolishing the concealed mysteries of the plumbers' trade, and, if they cannot earn a living out of simple and sound work, the public would not begrudge their making up their profit by treating their work æsthetically as well as openly.

EDWARD J. TARVER.

Bristol Cathedral.—A memorial tablet of statuary marble to the late Canon Reeve has just been placed in a moulded recess formed in the wall on the south side of the nave. The inscription is arranged in an oval panel, on the upper side of which is a lily branch and in the lower laurel. The memorial inscription states that the tablet is erected "In memory of John William Reeve, M.A., son of Benjamin Reeve, esq., of Wangford, Suffolk, for thirty years minister of Portman Chapel, London, chaplain-in-ordinary to her Majesty the Queen, and canon of this Cathedral." The work was executed by Mr. Frank Bell, sculptor, College Green.

LARGE SALE OF BUILDING SITES AT CLACTON-ON-SEA.

ON Monday a very large sale of building sites took place at the rapidly-rising watering-place of Clacton-on-Sea. The sale was by direction of the Clacton-on-Sea Land and Building Company, and was announced to be the last of the season. For the convenience of parties from London attending the sale a special train left the Liverpool-street Station of the Great Eastern Railway for Clacton about ten o'clock, conveying a large number of passengers. The sale took place in the afternoon, at the Public Hall, which was much crowded, upwards of 300 persons being present.

Messrs. Harman & Matthews, of Walbrook, conducted the sale, which consisted of eighty-five plots of building land, some of them having frontages to the Marine Parade, and others fronting the different roads which have been laid out by the company. Mr. Harman, the auctioneer, before commencing the sale, adverted to the importance which Clacton was assuming as a sea-side town. They, as visitors, might plainly see what it was destined to become. The number of visitors during the present season had been larger than in any which had preceded it, as well as the number of excursionists who came to remain only a short time, and these results he attributed to the recent opening of the railway. The number of visitors having so greatly increased, it was felt that the erection of more houses in the town to provide for their accommodation was necessary. Referring to the class of houses now required he observed that what was now wanted was variety to meet the requirements of the general public. The parade and roads immediately contiguous were, to a large extent, covered with high-class residences of the value of some 60*l.* or 70*l.* per annum, as well as several of the roads more inland, and the erection of houses at rentals of from 30*l.* to 40*l.* per annum would be found to be profitable to builders. Unfortunately those amongst them who had come down for the first time to-day had not very much choice of sites, for in the neighbourhood of the parade, more especially, nearly all the sites had already been sold.

The sale then proceeded, when two plots on the Marine Parade West, one having a frontage of 40 ft., with a depth of 100 ft., and the other a frontage of 52 ft. and a depth of 110 ft., were sold for 200*l.* and 250*l.* respectively. The conditions as to these two lots were that the houses erected are not to be of less value than 650*l.* each. Eight lots, immediately adjoining the two last-named, and running northwards of them, with frontages on the west side of Alton-road of 50 ft., and a depth of 92 ft., were next sold at prices ranging down from 155*l.* to 139*l.* each, no detached house of less value than 450*l.*, or semi-detached house of less value than 350*l.*, to be erected. Two lots, with frontages of 75 ft. to Alton-road, and an equal depth, were sold at 145*l.* each, no house of less value than 450*l.* or 350*l.* to be erected. These were followed by the sale of two plots in the Marine Parade East, having frontages of 50 ft. and 70 ft. respectively, and a depth of 103 ft. and 107 ft. to Connaught-gardens. The first lot was sold for 133*l.*, and the second lot for 155*l.*, not less than 650*l.* to be expended on each house. Twelve adjoining plots, having frontages of 50 ft. to Connaught-gardens, and a depth of 120 ft., were sold at prices ranging from 98*l.* to 75*l.* each, not less than 600*l.* to be expended in the erection of each house. The disposal of the foregoing plots was followed by the sale of fifty-nine plots at the north-eastern boundary of the estate. Of this number, fifty-three of the plots, with frontages of 25 ft. to different roads on the estate, near the railway station, and a depth of 100 ft., were sold at prices averaging 30*l.* each, no house to be erected on any of the plots of less value than 150*l.* each. Six plots, having frontages of 50 ft., and a depth of 91 ft., were sold for 50*l.* each, 350*l.* to be expended in the erection of each house. The total proceeds of the day's sale amounted to about 5,200*l.*

New Organ, All Saints', Friern Barnet. Messrs. Bryceson Bros., of Charlton Works, Islington, have just erected this new organ of three manuals, twenty-nine sounding-stops, and eight couplers. The opening recital by Mr. J. C. B. Tirbutt, of All Saints', Reading, took place on the 23rd ult.

THE DOVER CONGRESS OF THE BRITISH ARCHÆOLOGICAL ASSOCIATION.*

WE briefly noticed the opening proceedings of this congress in our last. We now give some further details.

In the course of Mr. Edward Knocker's paper on the Borough Archives, he stated that the earliest documents which the Corporation now possess relate to the *Domus Dei*, or the Hospital of the Maison Dieu. That hospital was founded by the celebrated Hubert de Burgh, Mr. Burges said, at the end of the reign of King John, or in the beginning of that of his son. He added that in all probability it was little more than a large hall, with a kitchen and a few rooms for those to whose management it was entrusted, the hall serving as a dining-room during the day and "a shake-down" during the night. This hall stood on the site of the present new Town-hall. King Henry III. subsequently added a chapel to the Maison Dieu, and is said to have been present at its dedication in the eleventh year of his reign (A.D. 1227). The building where the Sessions Courts are now held, at the northern end, constitutes the remains of that chapel. As now seen, it consists of a very short nave divided from the chancel by an arch; but Mr. Burges thought it by no means improbable that this short nave may be the easternmost part of the hall of Hubert de Burgh. Some time in the reign of Edward I. (most probably in 1277, for we read of extensive alterations then) another hall was added on the south side of Hubert de Burgh's building, the communication being effected by piercing the party-wall with a series of very large and boldly-moulded arches, now remaining. Above these occurred sundry windows forming a sort of clearstory, but on the other side the windows went down much lower,—indeed, near to the ground, some 8 ft. or 10 ft. beneath the present floor of the hall. There still remains the tower at the south-west side of the Edwardian hall, which, from the two arches in its western face, may possibly have served as an entrance. King Henry III., who built the chapel, was a great patron of this institution. It had been founded by de Burgh for the reception of the great flow of pilgrims to and from the Continent to worship at the shrine of Thomas à Becket.

Mr. Thomas Morgan, F.S.A., treasurer of the Association, preceded his paper (read at the evening meeting on the 20th ult.) by a short inaugural address, one point of interest in which was a statement to the effect that on the 3rd of September, 1597, Shakspeare and a company of players visited Dover, and gave a performance, and were afterwards supposed to have proceeded to Calais. Referring to the Association, Mr. Morgan said it was established in 1843, and since that time its chief objects had been kept steadily in view, namely, to correspond with local antiquaries, to register facts, and to compare them rather than to put forth theories, and to spread a taste for archæology; also to endeavour by every means in their power to preserve ancient monuments from destruction. Referring to the kindred societies which had since been established, Mr. Morgan said none had been more successful than the Kent Archæological Society. For the great success which the British Archæological Association had achieved they owed very much to their hon. secretary, Mr. G. R. Wright, for the disinterested manner in which he had given his time to the services of the Association.

The Mayor (Mr. Dickeson) remarked that he was not aware before that Shakspeare ever visited Dover with a company of players, and inquired as to whether any further information could be given upon a subject so interesting to the inhabitants as well as to the meeting?

Mr. Wright said the circumstance alluded to by Mr. Morgan was culled from some of the old documents in the possession of the town of Dover many years ago, in the perusal of which Mr. E. Knocker, who was Town Clerk at the time, gave very great assistance. Shakspeare was supposed to have visited Dover during a tour through Kent with a company of players.

The Rev. Scott Robertson next read a paper on "St. Thomas of Dover," and this was followed by a paper by Mr. Syer Cuming, F.S.A. Scot., on the samphire which is found growing on the cliffs in the locality, and which has been immortalised by Shakspeare in connexion with the cliff which takes his name. The paper was read by Mr. Loftus Brock, in the absence of its author.

At Richborough Castle, visited on Tuesday morning, the 21st., Mr. George Dowker read an interesting paper descriptive of the remains, in the course of which he said that archæologists were much indebted to Mr. Boys, who, with untiring energy and zeal, explored the mines of Richborough in 1792. The walls, as could now be seen, were in the form of a regular parallelogram, enclosing an area of about five acres; they were originally flanked by two square towers on the north, and one on the west still remained. Boys stated that there were two on the west and two on the south. At the angles of the north walls were circular towers. The square towers were solid to the height of about 8 ft. from the foundation, hollow in the centre, and united at the top. In the main walls within these towers were large smooth holes in a row, each about 9 in. in diameter, penetrating the main wall, and smaller ones which run about 10 in. into the wall. Mr. Boys supposed that these were used to support defensive machinery. In the west wall, nearer to the north-west angle of the castle than to the south-west, an opening existed in the wall 34 ft. wide. Mr. Boys dug down, and found in the foundation large square blocks of stone forming a platform 24 ft. wide, or more than twice the width of the wall. This must have been the principal entrance into the castrum. The walls on either side of this entrance sloped inwards. The north wall of the castrum was best preserved, and near the middle of it was the postern-gate, the inner opening of which was 7 ft. 8 in. wide, and at the west side the main wall was turned at right angles, leaving an inner depth of 15 ft., when it was turned again at right angles, with a depth of 10 ft. 4 in. The opening from this gate was thus turned to the east, and at its end was 3 ft. 10 in. wide. A drain underlay this gate. As to the structure of the north wall, it was 11 ft. 3 in. thick at the base, and 10 ft. 8 in. thick at the top, and to within 6 ft. of the bottom was composed of large flint boulders, chalk stones, and sandstone from the Pegwell Cliff, or belonging to the lower tertiary beds. The foundation of the wall was very superficial, being only a few feet below the surface on the side of the hill, and composed of stones without mortar. The outside of the wall was faced on the north with squared stone of different sorts, probably some Portland, some tertiary, and some travertine; the latter entered into the composition of the postern gate. At about 3 ft. apart were bondings of a double row of large flat tiles. The inner portion of the wall was not faced with squared stone, but with boulders laid in mortar. Mr. Dowker said he believed, from an examination of broken portions of wall, that after a height of 2 ft. or more had been laid as a facing, the inner portion was formed by pouring in liquid cement or mortar, and then filling in with loose stones. The south wall showed signs of having been thus constructed. In the south wall was an opening which was probably the principal gate. The eastern wall of the castrum,—if there had been one,—had fallen with the undermining of the cliff, large fragments of wall being found below next the river. Mr. Boys thought he saw traces of a return wall on this side. A large portion of wall had been undermined and turned into the Stour during the construction of the railway. This and some other debateable points with regard to the subject of the paper were discussed at one of the evening meetings, as hereinafter mentioned.

Mr. Dowker, having described the walls, went on to refer to the most remarkable portion of the structure. Mr. Boys, in trenching round the projecting mass of masonry in the centre of the space inclosed by the walls, and popularly known as "St. Augustine's Cross," and seeking to determine its structure, found that it rested on a solid mass of stone, 144 ft. 6 in. long, 104 ft. wide, and 5 ft. deep, and covered with mortar. In 1826 Mr. Gleig excavated from a cave in the bank next the river, and reached below the platform, where he found a continuous mass of masonry down to 30 ft. or more from the surface. He likewise discovered a sloping terrace from the eastern edge of the platform. In 1843, Mr. Rolfe, of Sandwich, excavated beneath the platform round two sides of this lower masonry; he tried to penetrate the masonry on the east side, and made a hole 11 ft. deep into the mass near the south-east angle of the cross. In July, 1865, the Kent Archæological Society continued these investigations under the direction of the Rev. Mr. Drake and the author, who continued the excavation entirely round the platform. They caused a shaft to be sunk at the south side, which did not, however, determine its depth, the work being stopped by water-springs at a depth of 22 ft., or 30 ft. from the surface. They found an opening broken into the masonry on this side near the south-east edge of the transverse part of the cross, extending 20 ft. This had been filled up, and was evidently the attempt of some one to penetrate the mass. Mr. Dowker called to mind the description of the cave given by Leland, to which it appeared to Mr. Dowker strictly to answer. Mr. Dowker and Mr. Drake excavated over the platform and exposed the whole surface, showing the foundations of the cross, which Mr. Dowker considered was certainly not of the same date as the platform on which it rested. Besides the cross, they discovered foundations of another building of rectangular oblong form, corresponding with the direction of the cross, which was in the centre of the walls; but though these foundations were built of stone and bonding tiles like those in the outer walls, the mortar was different; the tiles, moreover, appeared to have been derived from some other building. When he drew up the report of these excavations for the Kent Archæological Society, Mr. Dowker said he did not venture on any opinion as to the age or meaning of these superstructures, but he believed they were of Saxon date, and that they were the foundations of the church known to exist here and mentioned by Leland. He was borne out in this view by the fact that the Roman camps at Dover and Reculver each contained within their walls a Saxon church. It was stated on the authority of Thorn that St. Augustine landed at Richborough, and that a church was built there to commemorate the event. Mr. Godfrey-Faussett had suggested that the huge platform of masonry before described had been the foundation of a *pharos*, but Mr. Dowker did not think that a *pharos* would have had a cross-shaped foundation. Many conjectures had been made as to the purposes of this stupendous mass of masonry. It consisted, as far as at present laid bare, of 61,834 cubic yards, or as many tons weight, if it were solid. Could we conceive that the Romans (who in the construction of their defensive walls more than 30 ft. high and 11 ft. thick laid very superficial foundations), would require such a mass as a foundation for a *pharos?* On the other hand, should it not be solid, its sides appeared as thick as from 16 ft. to 20 ft. It appeared to have been built in this wise: firstly a large excavation was made in the hill down to or under spring water-mark, which was then filled in with mortar and stone. At whatever period built, the material,—flint stone,—was easily obtainable near the site. The platform evidently conformed to the outer walls, for though not in the centre of the castrum, it was opposite the Decuman Gate, and if the castrum was continued on the eastern side, as Mr. Dowker had little doubt it was, the platform was situate exactly where one would expect to find the prætorium.

Proceeding to Sandwich, the Hospital of St. Bartholomew was visited, under the guidance of Mr. R. J. Emmerson, who described the building and briefly narrated its history. The chapel, he said, was of great interest and architectural value, dating back as it does to the thirteenth century; it is really a double work of that period, the southern half with the remarkable doorways in the south and west front forming the original nave, and the chancel being of that or even in part of an earlier date, while the northern half with the beautiful range of windows on the north wall, and the fine eastern lancets are, undoubtedly in the best style of that century, added to the original chapel. This arrangement of two chapels, so to call them, placed side by side or separated by an arcade, renders the building an unusually fine and interesting specimen of the best period of Early English work. A small portion of the building has been restored from plans by the late Sir Gilbert Scott, but it is stated that much remains to be done to preserve the building from structural failure.

St. Clement's Church, Sandwich, was next visited, the *cicerone* here being the vicar, the Rev. A. M. Chichester, who said he had often been asked which was the oldest church in the town, but that was a question which it was very

* See p. 265, *ante*.

difficult to answer. The stalls in the choir had been assigned to a confraternity of St. George. The church is now collegiate. It had once been a cruciform church, with transepts, as evidenced by gable marks on all four sides of the tower. The tower had outlasted the adjoining church towers, which both fell in 1661 and 1667 after a severe earthquake, and though once in a critical state, it was now firm and strong. All three were very ancient churches, having been erected in Norman times; 3,000*l.* has been expended in the restoration of St. Clement's, which had been very carefully carried out so as not to injure in any way its ancient features. The fine Norman tower, which gives to the church almost a cathedral character, was much admired, as were also the capitals and ornaments of the pillars, the arch over the door of the belfry stairs, the eastern window of the chancel, the windows of the north aisle, and the unique figure of the piscina.

The other two churches of the town, St. Peter's and St. Mary's, were also visited, St. Peter's (now in course of restoration) being described by the Rev. H. Gilder.

The Town Hall, the Fisher Gate, and some other ancient remains of the town having been visited,

Carriages were taken to Walmer Castle, where, by the kindness of Earl Granville, the Lord Warden of the Cinque Ports, and the distinguished President of the Association, the party had been invited. Unfortunately, the business which presses at the close of every session prevented the noble earl from being present. The Countess Granville was, however, there to receive her guests. The castle, with those of Deal and Sandown, were erected by Henry VIII., and there is nothing very special in its architectural features to interest archæologists, but Walmer Castle is associated with memories of Pitt and Wellington, and of the long line of distinguished Lord Wardens and eminent statesmen who have sought rest there from the cares of State.

At the second evening meeting, held in Dover, an interesting paper on "The Ethnology and Nomenclature of Kent" was read by Sir James Picton. A second paper was by the Rev. Canon Scott Robertson, "On the Destroyed Churches of Dover." The author said that only two of the ancient churches remained, St. Mary's and St. James, although, writing in the reign of Henry VIII., a great writer said there were six. During the references to the several churches, the author said he had found an entry which stated that "the revenue of the church of St. Martin was so small that no 'honest' priest would stay in it." The church of St. Peter was continued until 1611, when it was amalgamated with that of St. Mary. The church probably stood on the north side of the market-place.

On Wednesday, the 22nd ult., there was an excursion to Westenhanger, Lyminge, Lympne, and Hythe, and on returning to Dover another evening meeting was held, at which the first paper was "On the Saxon Church in Dover Castle," by Mr. J. T. Irvine, in whose absence it was read by Mr. Lynam. The author referred at considerable length to details of the masonry and the substructure of the old church, as supplied by Mr. Marshall and Mr. Gilbert Scott. In his opinion the church belonged to the Saxon period, and he pointed out that there was a great similarity in the structure to a church near Faversham, and to Rochester Cathedral.

The Rev. H. T. Craig, chaplain, Dover Castle, asked, if the building were Saxon, how they could account for the use in it of a large number of tiles which must have been manufactured in the times of the Roman occupation.

Mr. Loftus Brock said he was not responsible for the opinions expressed by Mr. Irvine. In his own opinion the church belonged to a much earlier date.

Mr. Lynam said as a matter of fact these tiles were found in Saxon and Norman work. Only that day they had seen some in the church at Lympne.

Colonel Goodenough, R.A., said it might not be known to many present that a careful description of the church had been written, attributing its erection to the British-Roman period, and there were a great many persons living in the locality who had long regarded it as such. It was extremely rare to find in any Saxon building arches of the great height of those which were found in this church. These resembled very closely the arches found in the old basilicas, and he thought there were many people who would be loth to give up the belief they entertain that the church is older than Saxon, and dates back to the period of the first and not the second establishment of Christianity in England.

A second paper read was "On Debateable Subjects relative to Richborough Castle," by Mr. George Dowker. The points raised were, Whether Richborough was an important town as well as a port; the date of the walls; the meaning of the extraordinary subterranean structure, and its probable date; the cross upon the platform; the walls built around the cross; and the harbour at the west of the island. Mr. Dowker treated the above questions in their order, and in doing so he said unfortunately no inscriptions had been found in Rutupia, and they must, therefore, fall back upon what evidence there remained. Outside the great quantity of coins which had been found, there was but little evidence of Richborough being a large and important town. Mr. Roach Smith inclined to the idea that a town existed there, and they must place against this the fact that Richborough was nearly an island. There could be no doubt that this was as important a station as Sandwich was at a later period. As a military position its importance could not be doubted. The eastern side next the estuary had the wall built in such a manner that access could at once he had to the ships drawn up behind. Mr. Dowker then went on to say that he had no doubt whatever that there was a wall on the east side as well as on the west, a point upon which there was much controversy, for he found about 150 ft. of masonry in the river, where it had evidently fallen; the materials of which it was composed speaking of one architect and of the same period as the other three walls. The item in Mr. Dowker's paper which elicited most discussion was as to the block of masonry found inside Richborough Castle, and commenting upon this Mr. E. Loftus Brock said it was impossible at present to give a decided opinion as to what it had been, although he was certain it had not formed the foundation of any building.

On Thursday, the 23rd, the party left by a special train on the London, Chatham, and Dover Railway, for Canterbury, where they were received at the Town-hall by the Mayor and Corporation, who had arranged for exhibition and examination their very fine collection of charters, seals, muniments, civic maces, and other regalia. These were commented upon by Mr. de Gray Birch, G. Lambert, and others. This part of their programme being concluded, they proceeded under the guidance of Mr. J. R. Hall to the cathedral, where the vice-Dean, the Ven. Archdeacon Harrison, gave a history of the sacred fane, assisted by the Hon. and Rev. Canon Fremantle, Mr. Loftus Brock pointing out and commenting on its most interesting architectural features. After more than two hours spent in the perambulation of the cathedral, ending with a visit to the crypt, where Mr. Brock suggested there were evidences of Roman work in some of the columns supporting the vaulted roof, the party repaired for luncheon to the Foresters' Hall. Afterwards a visit was made to St. Augustine's Monastery, now used as a college for Church Missionaries, and where a paper on the history of the establishment was read by the Rev. J. Orger, the late Sub-Warden. With a visit to the museum of the city, and an inspection of some of the Roman antiquities given to it by the late Mr. John Brent, F.S.A., and an examination of the fresco lately discovered in the hall of the King's Bridge, formerly a house for pilgrims and wayfarers, and now used as a charitable institution for certain poor women and men, the day's proceedings came to a close, and the party returned to Dover.

At the fourth evening meeting, held on the return of the party to Dover, the first paper read was one by Professor T. Hayter Lewis, on the subject of "Sandown and the kindred Castles between Sandown and Sandgate." In the absence of the Professor the paper was read by Mr. Brock. In it the author said that the whole of these castles,—Sandown, Deal, Walmer, and Sandgate,—were built about the same time, and the solidity of their construction did not interfere with a careful attention to artistic design in details. Sandown had a special interest to archæologists, inasmuch as the walls were recently deliberately stripped of their best masonry, and the remains left for Time to do its work. The central tower of Sandown Castle was 84 ft. in diameter, that of Sandgate being somewhat similar. The origin of these castles would appear to be from an Act of Parliament 4th Henry VIII., 1540, which was entitled an Act for making bulwarks and fortresses in Cornwall and other places on the seaside; although it would appear that some of these were completed before that date. In 1539, Hasted said, Henry VIII. built three castles not far from each other,—Walmer, Deal, and Sandgate. In 1539 Sandgate Castle was mentioned as being completed. In the year 1805 a reference to this same castle said it had been restored and certain damages by the sea made good. In 1588 Queen Elizabeth was said to have visited Sandown Castle. In 1603 there was a letter referring to Deal Castle, in which it was reported that the sea had undermined the foundations, which were subsequently repaired. Colonel Hutchinson was imprisoned in Sandown Castle in 1663. When he came to the castle,—so stated the history of his imprisonment, written by his wife,—he found it a lamentably ruined place. In 1808 it was mentioned that some repairs had been made to this castle. Sixty years later it was stated in the journals of the day that the castle had been pulled down, but this referred only to the central tower and the upper part of the four bastions, thus providing a level platform. Up to the latter portion of last year this lower portion remained, with its masonry complete, when some of the stonework was allowed to be taken for building purposes at Dover Castle. Three hundred years ago Deal Castle was reported to have had its foundation eaten into by the sea, but the danger was averted, and the old castle still remained to us. But the far more interesting castle at Sandown had been uncared for until it was found to be suitable for a quarry for an officer's residence.

Mr. G. Lambert said he believed Sandown Castle to be one of the eight "Block Houses" erected by Henry VIII.

A second paper, by Mr. Richard Sim, "On the Dover Records in the British Museum," was read by Mr. de Grey Birch. The earlier manuscripts in the British Museum connected with Dover were stated to be about 150 in number, one half of which consist of manuscripts of from two to a dozen pages, and the remainder of the works in the form of volumes containing from 50 to 500 pages of closely-written matter. A great number of documents had been obtained from certain booksellers of Ipswich. The manuscripts recently obtained were forty-six in number, and were divided between the "Egerton" and "additional" collections, the funds for their purchase having been provided out of the grant by the Earl of Bridgwater, and the annual sum set aside by Parliament. They are said to have been obtained by the above booksellers at an auction sale in Kent. How they were brought from Dover could not be said, but probably they were borrowed for literary purposes and never returned. Instances of this kind have often been met with in England. The paper then proceeded to give in detail the names of the various manuscripts which formed the recent additions.

At the conclusion of the paper, Mr. de Grey Birch said he must regret that he was unable to see any member of the Corporation present, particularly Mr. Edward Knocker or his son, who would have been able to tell them how valuable the manuscripts found would be in the history of the town. They appeared to him to range over far wider ground and a much earlier period than any of those which he saw exhibited by Mr. Knocker on the opening night, and no doubt if they were judiciously and theoretically examined they would throw a great light upon the ancient history of the town. It struck him that the Corporation of Dover would not be acting unwisely if they were to endeavour to obtain some extracts from these deeds, with which to supplement their own library and original records.

A third paper, by Mr. George Lambert, F.S.A., "On St. Dunstan, Patron Saint of the Guild of Goldsmiths," was full of interesting matter.

On Friday, the 24th ult., a second visit was paid to Canterbury, where, under the guidance of Mr. Cecil Brent, F.S.A., visits were paid to the Castle, now used as a storehouse for coals; to St. Mildred's Church, where Mr. Hall and Mr. Loftus Brock gave descriptions of the edifice; to the ruins of St. Pancras; and afterwards to St. Martin's Church, where the Roman remains were pointed out and commented on by

the Rev. H. Goodwin, in the absence of the Rev. Canon Routledge and Mr. Brock. Mr. Cecil Brent then took a portion of the party to the ruins of the Norman infirmary church, belonging to the monastery of Christchurch, and thence to the Green Court to see the Norman staircase and the two Roman columns brought from the chancel arch of the ruined church of Reculver (the Regulbium of the Romans). Thence the archæologists went to the remains of the Blackfriars, to the West Gate of the city, and the gateway of Margaret Roper's house, and then to the Church of St. Dunstan, of the history of which Mr. Hall read a short account.

Afterwards the party proceeded by rail to Shepherd's Well Station, whence, carriages being in waiting, they were driven to Barfreston Church, a fine specimen of rich Norman work, and there, after the Rev. E. Austen had said a few words, Mr. Loftus Brock gave a fuller description of its history and architecture. The drive was then continued to Coldred Church, and attention was directed by the Rev. Irvine Wimberley to the Roman encampment close by. The drive was then continued by Waldershare Park to Dover, where the fifth evening meeting was held, with General Newdigate, C.B., the General commanding the South-Eastern District, in the chair. An interesting and exhaustive paper on "The Castle of Dover" was read by Mr. Thomas Blashill, followed by another by Mr. Walter de Grey Birch, F.S.A., "On an Ancient Manuscript List of Territories and Peoples of England."

On Saturday last, the proceedings commenced with a walk to the famous Bredenstone-hill, on the Western Heights, where a short account was given by the hon. Congress secretary, Mr. Wright, F.S.A., of the remains of the Church of the Templars, discovered a few years ago while excavations were being made on the hills for some military purposes. Thence, under the conduct of Major Sturt, R.E., the party proceeded to the Bredenstone, where the Court of Shepway for the subscribing of the "Serement," or oath of office, by the newly-appointed Lord Warden of the Cinque Ports, used to take place. After inspecting the fragments of some rough masonry existing on the spot where, a few years since, a massive platform of concrete of a hexagon shape was discovered, some 15 ft. beneath the present surface, the party descended to the married soldiers' quarters in the fort below, and then examined the remains of the base of this interesting object, which, being of Roman work, made up of reddish material, with flint and Kentish ragstone placed longitudinally, is presumed to be the base of the Roman Pharos which formerly stood there, and of which Darell, in his "Ara Cæsaris," gives an illustration corresponding in its features to the still existing sister Roman Pharos on the opposite Castle Hill. On leaving the Western Heights, the party proceeded to the parish church of St. Mary, in Dover, and here the vicar, the Rev. Canon Puckle, gave an interesting account of the history and restoration of the Norman fabric, built, as was proved to be the case, on the remains of a Roman villa. After other visits had been paid, the proceedings of a most enjoyable and healthful week were brought to a close at the Town-hall, although a party of the members, still on archæological pursuits intent, devoted Monday, Tuesday, and Wednesday last to visits to Calais, Amiens, Abbeville, and Boulogne.

Maghill Church (Adelaide).—A large stained-glass window for this new colonial church has just been completed and shipped by Messrs. Powell, Bros., of Leeds. It embodies an illustration of the well-known text (Matt. xi. 28) :—"Come unto me, all ye that labour and are heavy laden, and I will give you rest." The Lord is presented as seated on a short flight of steps, converted into an impromptu daïs, in the act of addressing the above words to the hearers before him. These latter are also seated on benches and stools placed on the floor for their accommodation. Immediately behind Jesus stand two of the Apostles, intently listening. The expression of the other countenances is in artistic response to the various emotions evoked by the Saviour's gracious invitation. Above the subject-painting is an ornamented canopy of bold thirteenth-century style; and beneath a base of ornamented work to correspond, a suitable border enclosing the whole. The window is in parts rich in colour. Mr. A. Coke Hill, of Derby, was the supervising architect.

GOVERNMENTAL WORK IN THE WEST.

THE three blocks of buildings to form part of the new Seamen's Barracks (Keyham), Devonport, will be ready for occupation within the next three months. The work is being pressed forward as rapidly as possible, almost every week showing some new feature in its formation. "A" block will be finished by next month, the time of the annual visitation of the Lords of the Admiralty. The "B" block has so far progressed that the framework of the roofing has been fixed, and the whole will be up ready for slating in two or three days. The towers of the three buildings have been completed, and the officers' quarters are also in a fair way of completion. The other two blocks, which are to cost 6,000*l.*, and are to be situated in a line on the town side of "A" and "B," will be commenced as soon as practicable,—in all probability before the expiration of the present year.

The old South camber wall of the Devonport Gun Wharf having given way, a new one is now being erected by Mr. Debnam. It will be constructed of concrete blocks made of lias mortar. This is an exceedingly cheap method of doing the work, and is the first time it has ever been introduced for Governmental purposes in the West. Should the experiment prove successful, it is intended to bring it more generally into practice, and thus save much unnecessary expense.

A NEGLECTED ART EPOCH.

IN the pages of the *Builder*, in June last [vol. xliv., p. 771], a period of English Mediæval architecture, of very interesting character, great beauty, but very short duration,—less than a century,—was referred to with regret as having been neglected. What, then, shall we say of a neglected style that was not only interesting and beautiful, but maintained its vitality, if not its purity, for at least ten centuries; whereas Greek and Gothic, and, indeed, all other architectural styles decayed in less than five?

Although no one in England can fairly complain that any particular style or phase of architecture is obstinately indulged in for any great length of time to the exclusion of others, there existed,—perhaps I should say exists,—a wonderful art epoch which has, likewise, not had the attention its inherent beauty and immense geographical distribution would seem to claim for it. I allude, of course, to the Mahometan style, which lent its architectural splendours to the cities of Delhi, Ahmedabad, Ispahan, Bagdad, Damascus, Stamboul, Cairo, Tunis, and Granada; to India, Persia, Mesopotamia, Egypt, Spain,—in brief, to a territory larger than the whole of Europe.

How is it, then, that in England, where, for the last fifty years, cosmopolitanism in architecture has been a national characteristic, this Oriental style has been entirely neglected? Our Queen is the Kaiser-i-Hind. As a nation of travellers, who have some 60,000 Mahometan fellow subjects, the style must be tolerably familiar to Englishmen. Our Anglo-Indian interests seem naturally to suggest it as peculiarly appropriate. We are, perhaps, more eclectic than original. We cannot be prejudiced against it on the ground of difference of religion, for we have not hesitated to adopt the architecture of the Greek and the Roman, whose religious notions and ceremonies were infinitely more obnoxious to Christians than are those of the Mahometans. Nor can the style that gave us the pointed arch, that used every other form of arch, that can show us more beautiful cupolas than were ever conceived by Renaissance architects; domes of equal magnitude and more difficult construction than any in Europe; towers as elegant as any designed by Gothic architects,—be wanting in the requirements of a modern style. With our architectural history before us, it cannot be matter of prejudice.

Is it that as colour forms such an important element in the style, that it is so emphatically an artistic style, that we are afraid to have anything to do with it? If so, this is much to be regretted, for this charming characteristic is just the one demanded by a grey and cheerless climate. In this particular, not harmony, but contrast, is most devoutly to be desired. At all events, thanks to the strong and very universal art instinct manifested of late by the country, the Government, and our manufacturers, architects have all the materials at command,—natural and artificial,—for carrying out this striking and beautiful style in all its integrity, should they desire to do so. Minton and Maw can give us tiles vieing in lustre and colour with those of Persia, and which, with their glazed surface, would be ever clean in our smoky atmosphere. Bricks as bright and beautiful in colour as those found by Mr. Loftus in Mesopotamia may be seen daily in the market. And as to the use of choice natural materials,—marbles, breccias, and such-like,—as more or less essential to a perfect revival, our native soil not only yields limestone and sandstone and dolomite, but pink and grey and white granites, and red syenite and green serpentine and black basalt, which, owing to the mechanical ingenuity of our countrymen, can be shaped and burnished with wonderful despatch and economy. By these means smooth-faced Saracenic traceries, pleasing alike for their geometry and colour, could be realised with facility, and, in the result, something strikingly new be presented to the admiring gaze of the million.

The numerous details at South Kensington, and the superb works of MM. Prisse d'Avennes, Bourgoin, Prangey, Coste, Texier, and Vogüé in the Art Library at the same place, render an acquaintance with the style a matter of easy acquirement for those who may not have already studied it.

H. DE SIVART.

"THE COAL YARD."

SIR,—If Mr. Chart will consult the plan of London (Rocque), 1736, &c., he will find all the Coal Yards he mentions, and one more. The one in Willow-street, and the other in Goswell-street, which he refers to, are in the plan marked "Cole Y." The third, marked in the plan "Cole Yard," is now named Smart's Buildings; and the fourth, which runs out of Drury-lane, and which is now a portion of Goldsmith-street, is in the plan named "The Cole Yard."

Mr. Chart writes (p. 268) :—"Coal Yard.—I drop the unnecessary prefix," &c. I have given my reason for not dropping the prefix.

Whether or not parochial authorities are judges of what constitute euphonious sounds, I am not prepared to say. In changing the names of the streets and alleys, it would be well if, at the same time, they altered their sanitary conditions for the better. King-street, Drury-lane, has not been improved by naming it Macklin-street.

THE WRITER OF THE ARTICLE.

COLOUR TO THE EXTERIOR OF HOUSES.

SIR,—A word may, perhaps, be in season on a subject which, as it affects the appearance of London, cannot be thought altogether a trifling one. This is the introduction of colour to the exterior of houses. It certainly remedies the defects of some of our older buildings, and gives an animated aspect to many of our deadliest streets and squares. But the result is sometimes almost an outrage. I am not now alluding to any particular system or style of colouring, though many defects under this head might be avoided by not leaving everything to painters. The irritating result I allude to does not proceed from want of knowledge, but from some other want in the characters of landlords or tenants. I need not specify any particular street or square, but you have only to go into one where there is any design or uniformity in the architecture, and, where there is a pediment, you will be certain to find that a half or a third of it is in one colour and the remainder in another; where there are twin porticoes, a very common thing, the same disagreement will prevail, the division in both cases being drawn generally down the centre of one of the columns! The intelligent foreigner can hardly envy us a liberty of this kind! Surely some agreement between landlords or tenants might be arrived at to avoid such absurdities. On the other hand we see in Waterloo-place an illustration of the good effect of carrying out the intention of the architect, and treating the buildings as a whole (though marred at present by two houses at the south-east corner preferring their distinctive dirt). It is too much perhaps to wish that Regent-street,—a gross offender in the way of defacing generally its architectural features,—would take example

from this. I am not saying that in every street, or in every square, one system of colouring should run through the whole. In many cases this might be an advantage, even if confined to whitewashing the whole at the same time. But I do maintain that a great deal to improve the appearance of London, and our character for good taste, might be done, especially where architectural design ought to be considered by the exercise of a little common sense and some public spirit. A. P.

NEW BUILDINGS IN PATERNOSTER-ROW.

SIR,—In your issue of last week (p. 266), you refer to the rebuilding of Messrs. Kegan Paul, Trench, & Co.'s premises at the corner of Paternoster-square and Rose-street, which, some few months ago were destroyed in the great fire which occurred in that neighbourhood, and you state these new premises are being erected by the Phœnix Insurance Company, "from the designs of their own architect." Allow me to state this requires some explanation. The designs from which these premises are being erected were prepared by my late brother, Albert Bridgman, and the company are restoring the premises, I might say, exactly as they were; the only exception being some slight alteration of an entrance, &c., to suit Messrs. Kegan Paul, Trench, & Co.'s own business. Indeed, the same plans which were originally used are being worked from in all respects, for I handed them myself to Mr. Cumber, the Insurance Company's Surveyor, for that purpose.

I would add that I am myself giving an eye to the progress of these works on behalf of the owner, the company preferring to re-instate than to hand over to the owners the amount of the insurance, or the matter would have been entirely in my hands.

I am sure you will oblige by giving publicity to this statement, or an injustice will be done to the memory of a promising young architect, not yet forgotten, who was taken away by death just as success and fortune seemed to wait upon his earliest struggles.

H. H. BRIDGMAN.

MS. SAID TO BE 2,700 YEARS OLD.

I FOUND last Monday that this object of curiosity had been removed from exhibition in the King's Library; the attendants stated that it was finally withdrawn, the owner objecting to certain freedoms indulged in by a French *connoisseur*,—possibly M. Clermont-Ganneau.

Pressing the matter, I was courteously conducted to the interior, and found M. Shapira seated with Dr. Ginsberg, quietly pursuing the laborious task of decipherment; I also saw a fair sample of the skins, which consists of strips of leather, like so many belts, say from 2½ in. to 3 in. wide, and neatly *sewn* together to make lengths.

The colour is of a brownish-black, and the letters faintly legible; I should venture to say that they never were continuous, but inserted in blotches. The inscription *appears* to be in red, and, if the writing is recent, great care has been exercised to remove all appearance of freshness by a process of partial obliteration.

I take it to be quite impossible to establish a character of genuineness for this production, and do most sincerely hope that this anticipated break-down will serve to reopen questions as to the Dibon stone which I have never accepted.

A GENERAL READER.

OLD BUILDING.

SIR,—The letter of Mr. Harry Hems in the *Builder* of the 25th ult. (p. 269) is very interesting, though it deals with a different material than that mentioned by Mr. Percival the week previously. I have met with *reeds* instead of laths in several old buildings; they are quite common in Cheshire. As to rafters being fixed without a ridge-piece, this is far from rare. I roofed a church in a similar manner not twenty years ago, from the designs of a worshipper of *the old*, without any regard for the *good*; it was the only new one I have seen. I have seen several old roofs which had their purlins flush with the rafters, the latter being in short lengths, from purlin to purlin only; sometimes tenoned into the purlins or ridge, at each end, sometimes only at one, with a lip let into the purlin at the other and always pinned.

Slating on cloven laths, too, has not been abandoned many years. When I was a boy it was the custom for a lath-cleaver to follow the fallers in the woods, and to work up the smaller timber into felloes, pins for shipbuilding, and *heart* and *sap* laths; the former for slating, and the latter for plastering.

AN OLD CARPENTER.

DANGER FROM LIGHTNING.

SIR,—Is the practice of putting lightning conductors to buildings anything more than a superstition? No doubt, like other superstitions, it is quite correct in principle, but are not the means and the desired end out of all proportion to each other? Would the current of electricity which would pass through an ordinary conductor do any harm to a building; and is not the application of such a conductor to carry off a flash of lightning something like laying an inch-pipe to carry off the Thames floods?

It will, no doubt, be said that a lightning conductor carries off gradually the electricity which would otherwise accumulate, but is this actually the case? Has the current of electricity passing through a lightning conductor ever been measured during a thunderstorm? I presume there would be no difficulty in measuring this, and, probably, it has often been done, but I have never seen a record of any such measurement, neither have I ever seen the vaguest estimate of the quantity of electricity in a flash of lightning, nor of the least current that would be dangerous to a building. Any information on the subject would be interesting to your readers generally as well as to

AN IGNORAMUS.

SUB-CONTRACTS.

SIR,—Your correspondent (p. 234) is drifting away from the point he raised. It is well that we should understand what we are discussing, and to do this we must amend the title, and call these special contracts. A sub-contract is one between the general contractor and the subordinate he employs, and with this the architect has nothing to do (?).

Taking certain work out of the contractor's hands, and giving it to a specialist under a special contract, is, I think, what we are discussing.

As a builder's surveyor, before I became a clerk of works, I have had the adjusting of numerous accounts, and with all the old school of architects 10 per cent. was allowed the builder, on the special contract, for the services, your correspondent N. so clearly summed up: this was not deducted, as Robert Crane seems to think, from the special contract, but was a charge on the client. Of late years there appears to be a desire to evade such an allowance to the general contractor, and to leave him all the little services and losses unrequited; and, at the same time, to increase the number of specialists brought on the building.

To read some of the modern specifications, you would think the general contractor had simply to put in the foundations and find scaffolding and attendance. Stone from a special merchant, bricks from another; a special carver; a special slater, a special gasfitter, lock *merchant*, bellhanger, sanitary plumber, stove merchant, &c.

As a clerk of works I find many of these men have a common speciality,—a *fluent tongue;* and the clerks of works have to arrange their work, and the builder is constantly asking who is to pay for carriages and labour of all kinds, *demanded* as a right by the special contractor.

ROBERT PHILLIPS, Clerk of Works.

DAMPNESS.

SIR.—If dampness is the sole cause of the unhealthiness of new houses, why are not tents unhealthy in wet weather? I have seen a good deal of tent life, and always found it agree with me. GEORGE BRICE.

A Pleasant Outing.—On the 18th ult., the *employés*, to the number of about forty, of Mr. Alfred Tattersall, builder and contractor, White Hart-street, Strand, and New Cross-road, had their annual beanfeast at the Crown, Knockholt Beeches, near Sevenoaks, proceeding thither from the shops at New Cross by road. The chair was taken by Mr. W. Baxter, the general foreman; and the vice-chair by Mr. W. Cross, foreman of the bricklayers. Among those present were Mr. Tattersall and Mr. Edward Clarke, the architect of several of the buildings which the firm is now erecting in and around London.

NEW OFFICE BUILDINGS FOR THE LANCASHIRE AND YORKSHIRE RAILWAY COMPANY, MANCHESTER.

THE Lancashire and Yorkshire Railway Company are about to erect a large block of buildings at the Victoria Station, Manchester, and at the same time important alterations in their existing offices will be effected, so that the old and new buildings will form a complete block of offices that will meet the requirements of the departments. In the present building this cannot be done, and the inconvenient necessity of renting offices away from the official centre has for some time existed. The new buildings will be in the Classic style, and will harmonise with the existing building. Designs have been prepared by Mr. William Dawes, of Manchester, who has been appointed by the directors architect to carry out the work.

BUILDING PATENT RECORD.*

APPLICATION FOR LETTERS PATENT.

4,051. J. P. Rickman & A. B. Wood, London. Manufacture of tesseræ for use in mosaic work, &c. Aug. 21, 1883.

NOTICE TO PROCEED

has been given by the following applicants on the dates named:—

August 21, 1883.

3,685. W. A. Bonella, London. Fastenings for securing doors and gates. July 27, 1883.

August 24, 1883.

2,303. S. C. Overton, London. Producing mural, ceiling, or other architectural hangings, &c. May 7, 1883.

2,321. B. Hess, Bayreuth, Germany. Manufacture of artificial stone, &c. May 8, 1883.

ABRIDGMENTS OF SPECIFICATIONS,

Published during the week ending August 25, 1883.

5,971. H. Hawgood, Richmond. Covering stairs with carpet, &c. Dec. 14, 1882. Price 6d.

Instead of covering stairs with a continuous length of carpet, frames are made to cover each tread, and are hinged beneath the nosing, and in the frames are secured separate pieces of carpet, &c.

6,017. W. Ferguson, Guernsey. Glazing roofs, &c. Dec. 16, 1882. Price 2d.

The panes of glass are placed in juxtaposition on the sash bars, each tier or row overlapping the lower one, and are kept in position by screws which pass between them into the bars. (*Pro. Pro.*)

6,035. G. T. Ball, London. Window-fasteners. Dec. 18, 1882. Price 2d.

In the lower rail of the upper sash is a bracket with a screw-tapped hole therein, into which a screw-bolt, secured on the lower sash, passes when the window is to be secured. (*Pro. Pro.*)

6,068. E. R. Hollands, London. Open stoves or firegrates. Dec. 19, 1882. Price 6d.

This is an improvement on Patent No. 4448 of 1880 in mounting the rake on two arms on either side of the grate, by which the live fuel is lifted when the fresh fuel is inserted underneath.

6,101. C. Major, Bridgwater. Dies used in the manufacture of roofing and other tiles. Dec. 21, 1882. Price 2d.

Instead of using overlapping ends on the upper die to confine the clay in the moulds, these dies have no such edges, and, when the tiles are pressed, the superfluous clay is cut off all round. (*Pro. Pro.*)

6,121. W. R. Lake, London. Water-closets and sewers and traps for the same. (Com. by C. F. Pike, Philadelphia, and E. L. Collings, Camden, U.S.A.) Dec. 22, 1882. Price 1s.

This consists of various improvements and arrangements which are stated in forty-one claims and illustrated by eighty-eight figures in the drawings, but which cannot be condensed.

6,126. E. Hopwood, Ryde, and E. Jenner, London. Apparatus for warming rooms and buildings. Dec. 22, 1882. Price 6d.

Water boxes are placed on each side of the fire, connected together by pipes round the back thereof, to which boxes is connected a series of endless hot-water pipes, led where required to warm the room.

6,156. J. E. Cope, Birmingham. Sash-fasteners. Dec. 23, 1882. Price 6d.

A swivel guard is pivoted on the circle-plate of an ordinary sash-fastener, so that when the arm is closed the guard is held transversely across the meeting-rails of the sashes to prevent the opening thereof from the outside.

6,169. H. Edwards and H. Harris, Glamorgan. Manufacture of silica firebricks, silica fire-cement, &c. Dec. 27, 1882. Price 4d.

Portland cement is mixed with the siliceous material.

* Compiled by Hart & Co., Patent Agents, 186, Fleet-street.

FOREIGN COMPETITIONS.

Italian Houses of Parliament, Rome.—The conditions of the competition for this building are published in the *Gazzetta Officiale*. Only Italian architects are permitted to compete, and designs must be sent in by November 30,—a term evidently too short. The jury have not yet been appointed. The first premium is 10,000 lire (400*l.*); there are also two minor prizes of 1,000 lire (40*l.*) each.

New Stadt Theatre at Halle.—The magistracy of Halle (Germany) invite designs for a new town theatre. It is to serve both for opera and the drama, and to give sitting accommodation for 1,100 spectators. The cost is limited to 21,500*l.* A very strong jury has been appointed, consisting of Herren Bauräthe Ende and Schmieden, of Berlin; Giese, of Dresden; two civil engineers, Herr Fölsch (the author of "Fires in Theatres," reviewed at length in the *Builder*), of Hamburg, and Herr E. Kelling, of Dresden; and Herr Lebrun, theatre manager, of Berlin. The date for sending in plans is December 1st next; 300*l.* have been placed at the disposal of the jury for premiums.

COMPENSATION CASES.

CONOLLY *v.* METROPOLITAN AND METROPOLITAN DISTRICT RAILWAYS.

THIS was an action heard before Sir Thomas Chambers, the Recorder, and a special jury. The claim was in respect of the compulsory sale of the business premises of the plaintiff at 15, Eastcheap.

Mr. E. Clarke, Q.C., in opening the case for the plaintiff (after the jury had viewed the premises), said that in 1876, Messrs. Fudge & Co., hatters, held the lease at a rent of 84*l.* a year from the Corporation. At this date the property was advertised for sale by auction by Mr. Inman Sharpe, and was bought by Mr. Conolly, through Mr. Bullen, solicitor, who acted as a friend of the plaintiff. Mr. Conolly then leased the premises from his friend at 235*l.* a-year for a period of 38¾ years. For two years and a half, however, Mr. Conolly paid only 84*l.*, the amount of the head lease from the Corporation. At the present time the plaintiff carried on the business of a hatter, paying 235*l.* a year rent. The upper floors were let to Messrs. Thomas & Co. (late Passmore & Thomas) at 180*l.* a year, the lease being for fourteen years from 1877. There was also another tenant in part of the basement, namely Mr. Bains, paying 35*l.* a year. The value of the basement where Mr. Conolly transacted his business was about 315*l.*, which, added to the sub-leases made a total of 530*l.* After paying his rent of 230*l.*, Mr. Conolly reckoned a net annual profit of from 200*l.* to 220*l.* If the jury multiplied this by fourteen, and added 10 per cent. for compulsory sale, and allowed a proper sum for the extinction of the business,—for the character of the neighbourhood had so altered that a new business would be impossible,—he (Mr. Clarke) thought the right amount of compensation would be obtained.

Mr. G. T. Bullen, solicitor, of 69, Cheapside, said he had bought the lease for 2,350*l.*, "subject to a John Perry for 2¾ years at 85*l.* per annum, but of the estimated value of 220*l.* per annum, held under the Corporation of London from Christmas, 1834, and at a ground-rent of 12*l.* per annum." He purchased at Mr. Conolly's request but in his own name. He offered to transfer the property to Mr. Conolly or to lease it to him, and Mr. Conolly preferred the latter course.

Mr. George Augustus Lang (of Messrs. Jones, Lang, & Co., auctioneers and surveyors, 3, King-street) estimated the total value of the lease at 3,311*l.* The carpet area of the shop was 243 ft. superficial.

Witness, cross-examined by Mr. Bidder, said there had been a temporary depression during the last few years. He was not aware that in 1875 Mr. Inman Sharp, an auctioneer, had estimated the value of the property at 220*l.*, and that it actually realised less, but the circumstances may have been different.

By Mr. Clarke.—Property was often bought very cheaply, and by a judicious outlay the value was doubled.

Mr. R. A. Ellis (Messrs. R. Ellis & Sons, auctioneers and surveyors, 49, Fenchurch-street) valued the shop and part of basement at 300*l.* a year, giving a total for the house of 515*l.* The net rental would be 203*l.*, which capitalised, he placed at 3,126*l.* He regarded this as the fair value of the house.

Mr. T. Chatfeild Clarke, surveyor, Bishopsgate-street, also estimated the value of the shop and part of basement at 300*l.* a year.

Mr. Philbrick, Q.C., in opening the case for the company, said these corner premises opposite Philpot-lane being required for the widening of the street, the real question was, What was the value of the shop? In 1876 the upper portion of the house was let for 180*l.*, when there was not a suggestion that the parties were not anxious to get the very best rent. It seemed to him a very high rent, but he took it at 180*l.* There was a let-off of part of the basement at 35*l.* There was no reason for reducing the ordinary allowance for repairs from 20 per cent. to 15 per cent. What was the ground-floor worth? In 1875 the auctioneer valued it at 220*l.* a year. Mr. Conolly actually bought the premises for 2,350*l.* They were asked by the claimant to put on something like 300 per cent. His clients valued the lease at about 1,000*l.*, the trade was about 200*l.* or 220*l.* a year, and it was idle to talk of a loss on the stock.

Mr. Clifton, architect and surveyor, was called to give evidence for the railway company, but was objected to by Mr. Clarke as having exercised the judicial function of umpire in respect of this property.

The Recorder thought the evidence must be received.

Witness had had great experience of property in Tower-street, Mincing-lane, &c., and he estimated the rental value of the whole house at 292*l.* Taking the shop with all its advantages, he valued it at 878*l.*

Mr. S. Walker, surveyor, Moorgate-street, had purchased the sites for the Courts of Justice and the Post-office. He valued the leasehold interest in the property at 1,001*l.*

The jury gave a verdict for 3,000*l.*

PROVINCIAL NEWS.

Swaffham.—The Bagge Memorial, Swaffham, was unveiled by Lady Walsingham on the 13th ult. The structure, of which we gave a view in our last volume (p. 742, June 2, 1883), has been erected by public subscription in memory of the late Sir William Bagge, for thirty-six years Member of Parliament for the western division of Norfolk. The memorial being in recognition of the deceased baronet's great personal worth and long public services, was promoted by men of different political sympathies. It is of Classic design, and consists of a fountain and traveller's rest, and a bust of Sir William in statuary marble, by Mr. Hamo Thorneycroft,—a well-executed piece of sculpture, and a striking likeness. The fountain is sexagonal in form. It is built of Ancaster stone, on a base of granite, with Ketton stone for the tracery. The east and west sides are open, and balustraded with arches and spandrels richly foliated, and Corinthian columns at each angle. There are two recessed drinking-basins of granite, with cattle-troughs beneath of the same material, the water supplied to the former flowing through bronze lion-heads. The structure, which is 32 ft. in height, has a roof of Broseley tiles, surrounded with an ornamental parapet, and crowned by a cupola and vane. There is a raised moulding to the cornice, which bears the following inscription:—"This Rest and Fountain were erected by his numerous friends in memory of Sir William Bagge, Bart., M.P. for West Norfolk, A.D. MDCCCLXXXII. Spes est in Deo." The Rest, which is entered on the south side by four steps of Hopton Wood marble, has a handsome mosaic floor, and in a niche on the north wall is the bust resting on a floor of black marble, by Messrs. Burke & Co., of Newman-street. The architect was Mr. Arthur Blomfield, M.A., of London; the contractors for the stonework were Messrs. Bardell Bros., of Lynn; and for the carving, Messrs. Earp & Son, of Westminster. The total cost of the memorial is about 800*l.* Lord Walsingham, in the course of some remarks made on the occasion of the unveiling of the memorial, referred in complimentary terms to the success which architect and sculptor had combined to achieve in this memorial of "a fine old English gentleman."

Arundel.—The new cemetery here was consecrated on the 10th ult. by Bishop Tufnell, who attended on behalf of the Lord Bishop of Chichester. The chapels, of which there are two, are in the Early English style, connected by a covered way. They are built of Kentish rag, with Bath stone dressings. The interior measurements are 40 ft. by 20 ft., while at the east end of the consecrated chapel there is an apse, and the north end of the other chapel is rounded. The floors are of pine blocks and Minton tiles, ornamentally arranged, and the windows of quarry glass with cathedral edgings. The interiors of the roofs, which are covered with Broseley tiles, are stained, and the seats are of varnished pine. The carving still remains to be executed. The lodge at the entrance of the cemetery is in character with the style of architecture displayed in the chapels. The cost of the buildings is something like 1,700*l.*, and the total cost of the cemetery, when the wall and railing shall have been completed, will be about 2,500*l.* The architect is Mr. Edward Watkins, of Beckenham, Kent. The contractor was Mr. Chamberlain, of Arundel. The ground was the free gift of the Duke of Norfolk.

Dover.—At the meeting of the Dover Town Council on the 22nd ult., Dr. Marshall opposed the payment to the architect of the new Town Hall (Mr. R. P. Pullan) of 59*l.* as commission in relation to the decorations. At one of the meetings of the Town Hall Committee the architect said the decorations would cost 500*l.*, and, after considerable discussion, the committee agreed to spend that sum, and it was understood, he thought, by every member of the committee that that was to be the maximum amount to be expended. Now, however, they had received a demand from the architect for his commission. Perhaps the Town Clerk would state what the actual amount spent in decoration was. The Town Clerk said it was 650*l.* 5s. 1d., including the commission. Mr. Pullan reported at the meeting on the 1st of May that the approximate estimate would be about 500*l.*, and it was agreed Mr. Stiff should do the work. Dr. Marshall moved that the bills in question be not paid.—Mr. George Fry remarked that Dr. Marshall was wrong about the 500*l.* The architect did not say the cost would be about 500*l.*, but gave that sum as an approximate estimate. Then, as regards the architect's fees, if Councillor Marshall would take the trouble to write to the Institute of British Architects, and send 3d. and a postage stamp, he would be able to obtain a list showing that the regular charges for such work were 10 per cent., and railway expenses.—Mr. E. W. Fry said he agreed with Dr. Marshall, and added that if he would alter the wording of his resolution allowing the architect 5 per cent., he would second the motion.—Dr. Marshall replied that he would agree to his motion as suggested.—Alderman Rees was of opinion that the architect was entitled to his commission. On the building itself the architect had charged 5 per cent., and he found that in decorations, where there were a great many sheets and designs to draw out as well as much deliberation to go through, that was considered special work, 10 per cent. was always allowed. That was to say, there was more time and trouble in deliberating over the decorations of a room than there was in planning out the brickwork of a large building. Therefore, looking at it from a professional point of view, he did not think there was any irregularity in the architect's charges, and thought they ought to be paid.—The motion proposed by Dr. Marshall, and seconded by Mr. E. W. Fry, that the bills for decorations should not be paid unless the architect would amend his fee and agree to take 5 instead of 10 per cent., was put to the meeting and lost, the mover and seconder only voting in its favour.—Alderman Rees and the majority of the Town Council, although only doing what is right in this matter, have set an example which may be commended to the attention of other public bodies who have relations with architects.

Shepton Malet.—At a special meeting of the Shepton Malet Local Board on the 21st ult., a letter was read from the Local Government Board with reference to an inquiry held by Captain Hildyard (one of the Local Government Board's inspectors), as to an application made by the Local Board to borrow 2,000*l.* for sewerage works and sewage disposal. The Local Government Board, having regard to the nature of Captain Hildyard's report, which called attention to the unsatisfactory character of the works already carried out, requested that they might be furnished with a full report on the present state of the sewers and the sewage disposal land, together with a detailed estimate of the further works required to complete the scheme and to put it in proper working order. The following is an extract from Captain Hildyard's report:—

"I learned that the sewers, as laid by the late contractor, were letting in such large volumes of water, that it was found necessary to take them up in many places. . . . . On going round the work I found very indifferent pot-pipes being used, full of fire cracks, the sockets in most cases put on after the pipes were burned, and so untrue in form as altogether to forbid good work. I saw a line of pipes being laid in water with clay-joints, in a most slovenly way, so as to render its stability most uncertain; a land-water drain was being laid in the same trench with the sewer, and seemed to take away from the latter all proper support, at one part the land-water pipe was dispensed with, and

a stone drain was formed, having the sewer-pipe as one of its side-walls. . . . . Coming to the land at the outfall, the slopes of the ground are very steep, yet no attempt has been made to obviate this by narrow terracing; the carriers, formed of half-pot pipes, are laid on rough dry stonework, having slopes below them of perhaps one in three. I do not believe that these will stand when the sewage is turned on. I even doubt whether the stonework would stand without being put to the strain of having sewage running down over the edge of the pipe. . . I believe this land as laid out now, would, in two years at the latest, be a scene of utter ruin."

It is stated that Mr. Catley has been requested to give his answer to the above at the next meeting of the Board. Mr. Hickes protested against any further payments being made to Mr. Catley without his first having given due security. This he declined to do, and four members of the Board subscribed between them the expense of obtaining a bond for 100*l.* from the Guarantee Society. Mr. Catley, we are informed, is the engineer of the works, which he has been carrying out for the Local Board at daywork since the dismissal of the contractors. We are also told that there is no clerk of the works.

Amersham.—The sanitary arrangements and sewerage of "Latimer," the seat of the Right Hon. Lord Chesham, near Chesham, Bucks, have lately been reconstructed, and the sewers and soil-pipes ventilated. Mr. Mansergh, of Westminster, was the engineer. Mr. Geo. Darlington, of Amersham, was the contractor, and Mr. G. W. Dormer the clerk of works.

Books.

The Dragon-fly, or Reactive-passive-Locomotion. By THADDEUS HYATT. Chiswick Press: Whittingham & Co.

THIS book at first reads like a jest,—and the title as a wilful paradox,—but there is reason to think that it is seriously intended nevertheless. The author is a determined student of the subject of aërial navigation. So determined indeed is he that "for fully ten *or* eleven years, with little or *no* intermission," he watched the flight of birds with a view of ascertaining in what the secret of flying consisted. Learning nothing, however, from birds which could be turned to account, an accident directed his attention to insects,—and here a strange story of a dragon-fly is told,—"too strange (it is charitably hoped) not to be true." Going to Washington to see an experimental flying-machine which had been made by a Frenchman, the author found no machine visible, but in its stead a dragon-fly. Returning hastily to Philadelphia, a distance of 140 miles, while sitting at an open window pondering on the ever-present problem of flying, to him there entered *the* dragon-fly which he had just seen at Washington,—very limp and very tired,—as indeed he would naturally be, so the author suggests, after so long and sudden a journey. This wonderful fly exhibited at the word of command all the phenomena of its construction and its adaptation to aërial locomotion,—expanding its wings when so bidden, and going through its drill with extreme precision and docility,—until it was dismissed by a final order of release and flew away. The writer begs us to note that he simply relates occurrences *truthfully* and *only* states *facts*. Well! we have no right to doubt his veracity,—he was very fortunate in meeting with such an intelligent and obliging fly,—that's all.

The book is written pleasantly enough, and on page 70, we at last get at the gist of this author's theory, which is, that by the rapid motion of the insect's wings, turning in every direction, a "hollow sphere or vacuum centre in the air is formed," and that this spherical vacuum floats away by its own levity and the creature with it. If the creature were imponderable, this would, perhaps, be the case, but having a specific gravity in excess of the atmosphere by which it is surrounded, it must, if unsupported by anything better than "a partial vacuum," fall. This fallacy vitiates the author's theory in all its suggested applications, and he very prudently leaves to others to reduce, if they think well, his suggestion to practice.

After another decade of unintermittent observation, the author will perhaps oblige us with another theory as pleasantly advocated as the present one, and if advancing years shall have then left us the relish for a good story, we shall, no doubt, enjoy it as much as we have enjoyed this very good story about a dragon-fly.

The Bathes of Bathe's Ayde in the Reign of Charles II. By CHARLES E. DAVIS, F.S.A. (City Architect). Bath: Lewis & Son.

A CAREFUL and curious drawing of the king's and queen's baths as they appeared in 1675 was made by one J. Johnson, and is now in the British Museum, and, using it as a clue to the Bath of that day, the City Architect has put together some interesting notes, which he has published, together with a plan of the city and a facsimile of the drawing referred to.

The Roman baths which have been recently discovered were on a large scale, and occupied an area four times that of their modern successors. They were deserted in 577, and an Anglo-Saxon poem of the seventh century laments, melodiously, "the dreary court where the crowned roof lies low in the shadow of the purple arch." The same poem says: "There stood arcades of stone; the stream hotly issued with eddies widening up to the wall, encircling all the bright-bosomed pool. Then the baths were hot with inward heat, so they caused to flow into a sea of stone the hot stream." In the following century the baths were again in use, and then a long gap occurs in their history. Bathing was not a mediæval custom, and it is not till 1542 that we hear of them again. From the beginning of the seventeenth century downwards they have been the subject of frequent description. At the date of the drawing which has furnished the *motif* for the above work, the baths were surrounded with houses arranged so that the bathers could go to and from the baths and their bedrooms with "conveniencie." The buildings show all the architectural characteristics of the Restoration, and Mr. Davis has been at great pains to collect particulars of each, its exact date, owner, cost, &c. Amongst them "Mr. Symon Sloper," a person of quality then, was accommodated in 1675 in lodgings, rented of the Mayor. Although the use of the hot mineral springs for bathing is of such antiquity, "drinking the waters" was not introduced till 1572. The visit of the Queen in 1702 added to the popularity of Bath. In 1705 the first Pump Room was erected, and the town became the rendezvous of fashion. A noticeable feature is the number of offerings in thankfulness for cures which adorn the walls:—"Thos. Delves By God's mercy *and Pumping* here formerly ayded," is one of many curious specimens.

Ladies and gentlemen bathed together wholly or (very) partially clothed, or "where juvenile" (age not given) "devoid altogether of apparel." If the contemporary picture is a trustworthy guide, some of the figures which are "devoid of clothing" are by no means juvenile. Smoking in the bath was common. Coffee was served on trays, and gentlemen were accommodated with snuff boxes in little boats. In 1753 the sexes were separated,—no doubt with reason, and each had three days of the week allotted to it,—but the separation did not long endure, and the self-denying ordinance was quickly repealed. Every window in the surrounding houses was occupied by idlers gazing at the bathers, an occupation which was the only available one in the intervals of the bath. Pepys looked into the baths in 1668 and records that he found them "full of a mixed sort, good and bad," and we may well take his judgment on the point.

The author of this pleasant book takes an imaginary visitor round the town as it was at the date of the picture referred to, and introduces him to the shops, the tennis court, and all the sights. He has collected from various sources an astonishing amount of curious information which he imparts in a gossiping style which is very "diverting," as our grandfathers used the word,—and we are quite sure that he will have achieved his object of interesting many besides those who "seek the healing springs of the City of Bladud."

VARIORUM.

"Principles of Mechanics" (T. M. Goodeve, M.A.; new edition; Longmans). It is only necessary to announce a revised edition of this popular text-book, whose merits are sufficiently known to students. From the definition of the idea of force, to the application of the most complicated mechanical principles, the subject is treated alike with fulness and simplicity.——"Saw-filing: a Practical Treatise in Popular Form," by Robert Grimshaw (New York: Wiley & Sons; London: Trübner & Co.). A very handy manual, designed "as a practical aid to those who use saws." It is copiously illustrated, and appears to deal with every conceivable phase of the subject.——*Nature*, Aug. 9 and 16, 1883. This periodical maintains its high standard of excellence, and has something to suit all tastes and requirements. An article on "The Earliest Known Plotting Scale," dating from *before* the fifteenth century B.C., is of unusual interest; but, in fact, there is no lack of interesting subjects, and all are ably treated. ——A female writer in the *Magazine of Art* for the new month says of "Women as Flower Painters":—Many women are impelled to believe seriously that because they are women they must have an innate comprehension, a special instinct, which helps them to a right interpretation of floral mystery and beauty. They are encouraged as well by much talk of the dignity and sanctity of women's work, and a half-scornful belief that "surely any one almost can paint *flowers!*" So that, on an average, more than half the innumerable flower-pieces in our exhibitions are by women. In all this there is the confidence of ignorance; for, as a matter of fact, there are many who paint flowers creditably, and only a few, and those not usually women, who paint them worthily. The present high standard of art certainly forbids their being false to nature, or entirely mediocre; yet for "refined taste and delicate handling,"—I quote a leading art critic,—you look in vain. Painful memories crowd round you of the works of lady-exhibitors,—medallists, art-school mistresses, and others well on in the profession: work all clever, conscientious, crude though careful, curiously trenchant, and wanting in qualities of mass and delicacy; and, withal, absolute, self-assured, as though the task of flower-painting was esteemed almost too trivial for the painter's powers. The true flower-lover cannot help shuddering at such scanty measure of observation and tenderness. The general effect is nearly always premeditated, prim, strained, and utterly lacking in the careless profusion of nature. The drawing and composition may be good, admirable,—anything you will; but successful,—if success means revealing to the observer, with a sudden flow of emotion, some subtle impression in nature till then unknown or half-forgotten,—no! successful they are not. They might succeed in interesting, would they only believe it, by the careful delineation, with M. Zola, of overgrown vegetables and realistic black-pudding; but with flowers, as they might and may be, never. For if in painting them, besides faithful analysis and care, there be not added,—what is less tangible, but more necessary,—some degree of real love and understanding of their peculiar differences, their secret essence, their being, they must be, of all subjects, the most void of any but decorative interest. And if these public examples leave much to be desired, what shall be said of most amateur achievements? Of those ghostly tentative, or wooden outlines (so frequently supported by a vague structure purporting to be an Oriental vase), which partial friends declare to be "sincere and loving copies of nature"? I take it, they had better be left alone.

Miscellanea.

Sanitary Institute of Great Britain.—The Autumn Congress will be held in Glasgow from September 25th to the 29th, 1883. An exhibition of sanitary apparatus and appliances in connexion with the Congress will be held in the Burnbank Drill-hall from September 25th to October 20th. The president of the Congress will be Professor G. M. Humphry, M.D., F.R.S. The sections of the Congress will be three in number:—Section I., "Sanitary Science and Preventive Medicine," will be presided over by Professor W. T. Gairdner, M.D., LL.D. Section II., "Engineering and Architecture," will have for its president Professor T. Roger Smith, F.R.I.B.A., the vice-presidents in this section being Mr. John Honeyman, F.R.I.B.A., Professor Fleeming Jenkin, Professor Kerr, F.R.I.B.A., Professor James Thomson, LL.D., and Mr. James Thomson, F.R.I.B.A.; the honorary secretaries of the section being Mr. H. H. Collins, F.R.I.B.A., Mr. Alexander Frew, C.E., and Mr. A. Lindsay Miller. Section III., "Chemistry, Meteorology, and Geology," will be presided over by Dr. R. Angus Smith, F.R.S.

Decorations at the Peel Park Museum, Salford.—For several months past two of the picture-galleries, the staircase hall, and the lower corridor in the museum have been in the hands of Messrs. Best & Lea, of Manchester, for painting and decorating, and the manner in which they have accomplished the work is well spoken of by those who have seen it. The intention aimed at was so to colour and adorn the rooms as to make the most of their architectural details, and, at the same time, to adapt the work to the paintings and objects displayed on the walls. The walls of the galleries are painted in oil, of rich Indian red colour. The north gallery has, in addition, the ceiling more elaborately decorated with hand-painted illustrations from the vegetable world. This room has a suite of cases filled with samples of natural products, raw materials, and such like articles, and the decorations are designed to be illustrative and educational in a similar direction. The ceiling is divided into five bays by arches springing from the beam below the windows. Each bay has the flat of the ceiling, and the cove with four panels, besides the spandrels of the arches, available for special decoration. The whole of the sixty botanical drawings which form part of the decorations, are taken from illustrated works on botany in the Reference Library, and in the selection and arrangement of the decorations the artists, Mr. Wharton and Mr. Plant, the curator of the museum, may be equally credited with whatever praise they may obtain. The committee will endeavour to continue the work of beautifying the remaining gallery and rooms early in the coming year.

The Employment of Brickfield Children. At the Uxbridge Petty Sessions, Mr. F. H. Deane in the chair, Messrs. Eastwood & Co., Mr. Ralph Ratcliffe, and Mr. F. Harrison, brick manufacturers, were summoned by Mr. E. Gould, district inspector under the Factory Act, for employing in their fields boys who had not been certified by the medical inspector as physically fit for the work required of them, and others for whom certificates of regular attendance at school as "half-timers" could not be produced. Messrs. Eastwood were further summoned for not keeping a register of the young people employed in their field. Mr. W. Garner, solicitor, on behalf of Messrs. Eastwood and Mr. Ratcliffe, represented that the children were employed by moulders without the knowledge of the defendants, who, however, would take great care to see that the Act was not infringed in future. Mr. Harrison's foreman, to whom the management of the field was entrusted, pleaded that he was ignorant of the requirements of the Act prior to the 27th of June, when Mr. Gould visited the field, and that he had since failed in his efforts to get Mr. Parrott, the medical inspector, to examine the boys. The chairman suggested that complaint should be made at the Home Office if the officer neglected his duty. Messrs. Eastwood & Co. were fined 9*l.* and costs, Mr. Ratcliffe 7*l.*, exclusive of costs, and Mr. Harrison 2*l.* 10s. 6d. and expenses, the chairman remarking that if the defendants repeated the offence the full penalty would be imposed.

The Will of Miss Bewick (says a writer in the *Northern Daily Express*), is a matter in which the town (Newcastle-on-Tyne) and district are interested, for some of the art-treasures of the reviver of wood-engraving have been left for the perfection of the name and fame of the great artist in wood. It is to be hoped that Newcastle, in which the work was done which made him famous, will not be forgotten in the disposal of the treasures; and the Bewick Club ought to be favoured with some mementoes of the artist whose name, memory, and work they, at least, are doing something towards perpetuating, and are therefore carrying out the desire and wish of Miss Bewick, as expressed in her will. The woodcuts are to be sold, but the announcement of the sale, which may lead to the reprinting of the cuts, and their circulation of Bewick's gems by thousands or tens or even hundreds of thousands,—for in these days of cheap issues editions are reckoned by tens and hundreds of thousands,—has already had a depreciating effect on the original editions of Bewick's works, which have hitherto commanded a large price.

East Meon Church. — A correspondent complains that some circular openings in the Norman central tower of this church are about to be occupied by the dials of a clock. We do not know enough of the circumstances to offer any strong opinion on the subject.

The "Grand" Theatre, Islington.—This new theatre, which replaces the building known as the "Philharmonic" (burned down in September last), has been erected at a cost of about 15,000*l.*, from the plans and under the superintendence of Mr. Frank Matcham, architect, and is described as being of fireproof construction, and planned in conformity with the requirements of the Metropolitan Board of Works. The style is the Early Renaissance, with here and there a touch of Gothic treatment. The auditorium is spacious, its seating capacity being 3,000. As many as nine exits are provided to facilitate egress. The interior is comfortable and luxurious.. The space underneath the second private box is the entrance to the stalls, giving it the appearance of a private box. These boxes are divided by a large column, on the top of which stands a figure, which supports the soffit dividing the ceiling over the stalls from the large ceiling. The first-named ceiling is divided into three panels, each containing a painting illustrating Music. The larger ceiling is a square, designed into an octagon, the spandrels having circular pateras, with an electric light in the centre. This octagon is formed by Gothic lines meeting at a circle, forming a dome in the centre, and includes eight paintings. The whole of the interior decorative work was entrusted by the architect to Mr. J. M. Boekbinder, of whom we made appreciatory mention before when we described the Avenue Theatre. The proscenium border is of concrete, by Drake, of rather sombre colour, but relieved by gilt carton-pierre leaves. The lighting has been executed by the Hammond Electric Light Company, and the gasfittings by Messrs. Z. D. Berry & Sons. The whole of the theatre was executed at a cost of 15,000*l.*, of which the decorations alone amount to nearly 2,000*l.* Mr. E. Toms was the builder, and his foreman was Mr. Webber.

The Sewage Question at Wednesbury.—At a meeting of the Wednesbury Local Board, on Monday night, Mr. Trow introduced the sewerage question, and moved "That the sewage of Wednesbury be purified by precipitation, overflowing tanks, and, if required, by filtration; and further, that a civil engineer, who has had experience in sanitary matters, more especially in the purification of sewage by precipitation or otherwise, be appointed to advise with the surveyor as to the best means of carrying out the above work, and that plans and report for the collection and purification of the sewage of the town be prepared, and, subject to the approval of such plan by this Board and the Local Government Board, the engineer and surveyor, with a sub-committee appointed by the Board, do proceed to carry out the necessary work." Dr. Blackwood seconded the resolution. After a discussion lasting two hours the resolution was carried by six votes to two. On the motion of the chairman, seconded by Mr. Trow, it was decided to engage the services of Mr. Pritchard, C.E., of Birmingham, to prepare the registration plan and report.

Rochester Castle. — Rochester Castle is about to pass from private ownership into the hands of the Corporation of Rochester, who are to pay the present owner, the Earl of Jersey, 8,000*l.* for the structure and surrounding grounds. The Corporation have for some years had a lease of the property at an annual rental, and the grounds are laid out as public gardens, for which purpose the Earl of Jersey stipulates they are to be maintained, while the castle is to be kept as a ruin.

The "Cobden" Coffee Tavern, Birmingham, was opened by Mr. Bright on Wednesday last. The building occupies a site at the corner of Corporation and Cherry streets, and has been erected for the Birmidgham Coffee-house Company from the designs and under the superintendence of Mr. W. Doubleday, architect, Mr. Moffatt being the builder. We gave a view of the building in our last volume, p. 382 (March 24, 1883).

The North Wales College. — The arbitrators, Lord Bramwell, Lord Carlingford, and Mr. Mundella, M.P., have unanimously decided that Bangor is the most suitable site for the North Wales College. The town has just received a charter of incorporation.

Fall of Buildings in the Minories.—On Thursday, the 23rd ult., at about 10·30 p.m., the front walls of the houses, 36 and 37, Haydon-street, Minories, fell with a tremendous crash. The buildings belonged to the Metropolitan Railway.

An Engineer's Commission.—At an adjourned meeting of the Ashford Local Board, held a few days ago, the clerk read a letter from Mr. Mansergh, the Board's engineer, in response to the resolution requesting him to send an account of all his charges against the Board. Mr. Mansergh charged 1 per cent. for taking out quantities, and 2½ per cent. on estimated outlay, making a total commission of 560*l.* 8s. Besides these items there were others for travelling and payments out of pocket, amounting altogether to 55*l.* 18s. 10d., the total claim being 616*l.* 6s. 10d. The accuracy of certain charges of Mr. Mansergh was briefly questioned, and the way in which the money to pay Mr. Mansergh could be raised was discussed. It was resolved to send a deputation to the Local Government Board upon the matter.

TENDERS.

For erecting new house, carriage drive, fencing, &c., for Mr. George Kemp, Mayfield. Mr. Edward J. Thomas, No. 79, Mark-lane, architect:—

Clayton & Cornford (accepted).

For making, and draining with surface-water drains, new roads on the Hendon Estate of the Imperial Property Investment Company, Limited. Mr. G. H. L. Stephenson, surveyor:—

T. Adams (accepted)	£2,100 0 0

For alterations to the Sugar Loaf public-house, Cannon-street, City. Messrs. Wilson, Son, & Aldwinckle, architects, 2, East India-avenue:—

Axford	£1,310 0 0
Shurmur	1,246 0 0
Hearle	1,235 0 0
Drew & Cadman	1,209 0 0

For alterations and additions to "Dunedin," Surbiton for Mr. D. T. Smith. Mr. R. Peters, architect, Woo' Exchange, Coleman-street:—

J. Burchell (accepted)	£700 0 0

For the erection of double cottages at Padbury, Bucks. Mr. R. Hutchinson, architect, Huntingdon:—

	Pair of Cottages.
Woodin, Bucks	£453 0 0
Holton, Buckingham	417 10 0
Tew, Buckingham	398 18 8
Brown, Buckingham	390 0 0
Bunting, Fenstanton	380 0 0
Ingram, Winslow	363 0 0
Smith, Padbury	360 0 0

For the erection of farm buildings at Wood-Walton. Mr. R. Hutchinson, architect, Huntingdon:—

Saint, St. Ives	£820 0 0
Rowe, Huntingdon	785 0 0
Howard, Holme	780 0 0
Balmer, Huntingdon	770 0 0
Edey, St. Neots	737 0 0
Bunting, Fenstanton	730 0 0
Bateman, Ramsey	695 0 0

For the erection of a new flour-mill at Ipswich. Mr. R. Hutchinson, architect, Huntingdon:—

Thwaites, Ipswich	£5,300 0 0
Bennett & Co., Ipswich	5,300 0 0
Catchpole, Ipswich	4,911 0 0
Coe, Ipswich	4,897 0 0
Wyatt, Ipswich	4,885 0 0
Pells, Ipswich	4,840 0 0
Girling, Ipswich	4,815 0 0
Bunting, Fenstanton	4,700 0 0
Grimwood, Sudbury	4,695 0 0
Edey, St. Neots	4,684 0 0
Gibbons, Ipswich	4,450 0 0
Page, Buckden	4,229 0 0
Wallis, Harwich	3,700 0 0

For pewterer's work at The Falcon, St. John's Hill, Wandsworth, for Mr. J. Tavener. Mr. H. I. Newton, architect:—

Warne	£167 0 0
Kemble	158 0 0
Heath (accepted)	157 10 0

For rebuilding 128 and 129, Cheapside. Messrs. Ford & Hesketh, architects:—

Mowlem & Co.	£8,184 0 0
Nightingale	7,736 0 0
Rider & Son	7,453 0 0
Boyce	7,293 0 0
Clark & Bracey	7,280 0 0
Stimpson & Co.	7,215 0 0
Scrivener & Co.	7,173 0 0
Adamson & Son	7,087 0 0
Woodward	7,062 0 0
McLachlan & Sons	7,034 0 0
Lawrence	6,992 0 0
Brass	6,897 0 0

For alterations to professional chambers, Nos. 1 and 2, Waterloo-street, Birmingham, for Mr. H. C. Ogden. Mr. T. Foden Flint, architect, 22, Bennett's-hill. Quantities by Mr. Charles Sharp Smith, 72, Victoria-road, Aston:—

Twigg & Son	£745 0 0
Smith, James & Son	695 0 0
Smith, Thomas	690 0 0
Chaffer, W. H.	680 0 0
Bloore, William, Aston New Town	650 0 0
Coombes, G. W., Moseley	625 10 0
Dark, Thomas and David, Aston New Town (accepted)	605 0 0

For painting, decorating, and repairs to be done at the Board-room, library, and other offices attached to same, at the Licensed Victuallers' Asylum, Asylum-road, Old Kent-road. Mr. W. F. Potter, architect. Quantities prepared by Mr. C. R. Griffiths :—

Simpson & Annett, Kensington	£258	10	0
J. Buckman, Peckham	245	0	0
E. Burford, Bishopsgate-street	220	0	0
W. Smith, Kennington	199	0	0
E. Stace, Peckham	199	0	0
J. Bull, Westminster	187	0	0
S. Hayworth, Kingsland	165	0	0
B. Cooke, Stonecutter-street	159	0	0
W. Wythe, Dalston (accepted)	125	7	0

For additional floors and other works to the manufacturing premises of Messrs. Welch, Margetson, & Co., No. 17, Bridge-place, Southwark Bridge-road, for Mr. H. W. Wilson. Mr. E. Crosse, architect, 32, Bermondsey-square. Quantities by Mr. J. S. Matthews :—

Greenwood	£3,490	0	0
Colls & Sons	3,454	0	0
Rider & Son	3,421	0	0
Shepherd	3,395	0	0
Tyerman	3,319	0	0
Croaker	3,230	0	0
Higgs & Hill (accepted)	3,180	0	0

For the erection of four small cottages in the rear of the "Princess of Wales," Deptford, for Mr. Frank Barnes. Mr. Henry Roberts, architect and surveyor, 113, Lewisham-road :—

H. Keylock	£700	0	0
H. L. Holloway	653	0	0
M. Redman	597	0	0
Hubble & Trott, Deptford (accepted)	595	0	0

For oak road horses, per dozen, delivered, roughly wrought, framed, and bolted, for the South Hornsey Local Board. Mr. William H. Pipe, surveyor to the Board :—

	per doz.		
Austen, St. Alban's	£9	16	0
Shepherd, Kingsland	9	10	0
Ridley & Sons, Abbey Wharf, Reading *	7	0	0

* Accepted.

For additions to St. Mary's, West Kensington, for the Rev. J. Macnaught, and the committee. Mr. E. P. Loftus Brock, architect :—

H. Browning & Son	£3,240	0	0
Chamberlain Bros.	3,174	0	0
T. H. Adamson & Sons	2,976	0	0
Stimpson & Co.	2,917	0	0
Lucas & Son	2,750	0	0
E. Grover	2,720	0	0
H. Haynes	2,600	0	0

For alterations and additions to the Brown Bear, Hanworth, for Messrs. Fuller, Smith, & Turner, Chiswick. Mr. Geo. More, architect :—

Hiscock, Hounslow	£1,297	0	0
Rogers, Turnham Green	1,265	0	0
Brimsden, Brentford	1,167	0	0
S. Hunt, Chiswick	1,095	0	0
Lamble, Kentish Town (accepted)	1,057	0	0

For alterations, &c., at Astley's Theatre, for Messrs. Sanger. Mr. F. Matcham, architect :—

Dove Bros.	£3,800	0	0
Wall Bros.	3,750	0	0
Toms	3,539	0	0
Patman & Fotheringham	3,400	0	0
W. Shurmur	2,988	0	0

For the erection of a new schoolroom, vestry, &c., in connexion with the Congregational Church at Hemel Hempstead, Herts. Mr. W. A. Fisher, architect, Hemel Hempstead :—

W. L. Sear, Biccott's End, Hemel Hempstead	£418	0	0
E. Horn, Hemel Hempstead*	415	0	0

* Accepted.

For alterations, and repairs at No. 20, Compton-terrace, for the "Missionary Leaves Society." Mr. W. Waymouth, architect :—

W. Shurmur (accepted).

For alterations and repairs at No. 9, Hornsey Rise. Mr. F. Chambers, architect :—

W. Shurmur (accepted).

For alterations and additions to the Iron Bridge Tavern, East India Dock-road, Bromley, for Mr. B. C. Rawe. Mr. G. T. Tribe, architect. Quantities by Mr. J. F. Wesley, Forest Gate :—

Walker	£2,475	0	0
Harris & Wardrop	2,431	0	0
Holland	2,393	0	0
Hughes	2,338	0	0
Shurmur	2,286	0	0
Smith	2,264	0	0

For the erection of Villa Residence, Warwick-road, Coventry, for Mr. Oliver Minster. Mr. Herbert W. Chattaway, architect, Trinity Churchyard, Coventry :—

J. Marriott, Coventry	£2,240	0	0
J. Worwood, Coventry	1,917	0	0
C. Haywood, jun., Coventry*	1,850	0	0

* Accepted.

For the erection of fitting-shop, show-rooms, &c., adjoining the Caroche Tricycle Works, Jordan Well, Coventry, and repairs to various premises, for Mr. E. Ralphs. Mr. Herbert W. Chattaway, architect, Coventry :—

	Fitting shop, &c.			Repairs.		
J. Wilson, Coventry	£440	0	0	£72	10	0
C. Haywood, junior, Coventry	430	0	0	45	0	0
J. Makepeace, Coventry	421	0	0	42	0	0
R. Wootton, Coventry	333	0	0	60	0	0
T. Mayo, Coventry*	323	0	0	30	0	0

For alterations, &c., at No. 8, Porchester-terrace. Messrs. Joseph & Pearson, architects :—

McLachlan & Sons (accepted).

For providing new blinds to the Town Hall, Kensington, for the Vestry :—

G. A. Williams & Son, Bayswater (accepted).

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W. S.—L. & Son.—D. W.—A. J.—W. F. P.—E. P.—J. F. W.—W. H. P.—H. W. C.—H. R.—E. S.—C. S. S.—W. S. H.—S. H.—J. W. C.—W. W.—E. J. T.—Dr. P.—A. W.—B. Bros.—W. D.—R. P.—F. M.—G. N.—W. H.—A. B. B.—J. C.—P. Bros.—R. H.—W. W. P.—J. H. J.—I. D.—A. S.—J. M.—W. W.—S. W. (we know nothing of the papers in question).—A. J. B. (no names or amounts given).

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